Exhibit A

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

NETLIST, INC., *Plaintiff*, v. SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS AMERICA, INC., and SAMSUNG SEMICONDUCTOR, INC., *Defendants*.	§ § § § § § § § § § §	CIVIL ACTION NO. 2:21-CV-00463-JRG [redacted]

MEMORANDUM OPINION AND ORDER

I. INTRODUCTION

Before the Court are two motions. The first, filed by Defendants Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Samsung Semiconductor, Inc. (collectively, "Samsung") is Defendants' Combined Rule 50(b) Motion for Judgment as a Matter of Law and Rule 59 Motion for a New Trial (the "Motion"). (Dkt. No. 561.) In the Motion, Samsung moves under Rules 50(b) and 59, respectively, for judgment as a matter of law on multiple grounds or, in the alternative, for a new trial. (*Id.* at 1–4.) Plaintiff Netlist, Inc. ("Netlist") opposes the Motion. (Dkt. No. 573.) For the following reasons, the Court finds that this Motion should be **DENIED**.

The second motion before the Court is Defendants' Motion for Leave to File a Supplemental Brief in Support of Their Combined Rule 50(b) Motion for Judgment as a Matter of Law and Rule 59 Motion for a New Trial (the "Motion to File a Supplemental Brief") filed by Samsung. (Dkt. No. 591.) In the Motion to File a Supplemental Brief, Samsung requests leave of Court to file a brief in support of the Motion. (*Id.* at 1.) Netlist opposes the Motion. (Dkt. No. 594.) For the following reasons, the Court finds that this Motion should be **DENIED**.

II. THE MOTION TO FILE A SUPPLEMENTAL BRIEF

The Court will briefly address the Motion to File a Supplemental Brief. Samsung argues that the Court should grant it leave to file a supplemental brief to address allegedly inconsistent positions that Netlist took in proceedings before the Patent Trial and Appeal Board ("PTAB") after the briefing on the Motion concluded. (Dkt. No. 591 at 1.) In response, Netlist disputes that it took any inconsistent positions and argues that what occurred after a jury trial ended could not have affected the outcome of the jury trial. (Dkt. No. 594 at 1–4.) In reply, Samsung argues that "Netlist's statements to the PTAB [] demonstrate that the trial evidence cannot support the jury's verdict." (Dkt. No. 595 at 1.) Samsung then contends that Netlist did indeed take inconsistent positions. (*Id.* at 1–2.) Netlist did not file a sur-reply

The Court finds that leave should not be granted to Samsung to file a supplemental brief. Netlist is correct that any positions it took in front of the PTAB after the jury trial concluded has no bearing on the record evidence presented to and considered by the jury. Samsung is not without remedy. While Samsung might argue to the PTAB that Netlist took inconsistent positions, such has no bearing on this district court litigation. Samsung effectively seeks to supplement the trial record after the fact. Such a request is **DENIED**.

III. LEGAL STANDARDS

A. Judgment as a Matter of Law

"Judgment as a matter of law is proper when 'a reasonable jury would not have a legally sufficient evidentiary basis to find for the party on that issue.'" *Abraham v. Alpha Chi Omega*, 708 F.3d 614, 620 (5th Cir. 2013) (quoting Fed. R. Civ. P. 50(a)). The non-moving party must identify "substantial evidence" to support its positions. *TGIP, Inc. v. AT&T Corp.*, 527 F. Supp. 2d 561, 569 (E.D. Tex. 2007). "Substantial evidence is more than a mere scintilla. It means such relevant

evidence as a reasonable mind might accept as adequate to support a conclusion." *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1363 (Fed. Cir. 2004).

"The Fifth Circuit views all evidence in a light most favorable to the verdict and will reverse a jury's verdict only if the evidence points so overwhelmingly in favor of one party that reasonable jurors could not arrive at any contrary conclusion." *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1361 (Fed. Cir. 2018) (citing *Bagby Elevator Co. v. Schindler Elevator Corp.*, 609 F.3d 768, 773 (5th Cir. 2010)). A court must "resolve all conflicting evidence in favor of [the verdict] and refrain from weighing the evidence or making credibility determinations." *Gomez v. St. Jude Med. Daig. Div. Inc.*, 442 F.3d 919, 937–38 (5th Cir. 2006).

B. New Trial

Rule 59 provides that a new trial may be granted on all or part of the issues on which there has been a trial by jury for "any reason for which a new trial has heretofore been granted in an action at law in federal court." Fed. R. Civ. P. 59(a). Notwithstanding the broad sweep of Rule 59, "courts do not grant new trials unless it is reasonably clear that prejudicial error has crept into the record or that substantial justice has not been done, and the burden of showing harmful error rests on the party seeking the new trial." *Metaswitch Networks Ltd. v. Genband US LLC*, 2017 WL 3704760, at *2 (E.D. Tex. Aug. 28, 2017); *Erfindergemeinschaft UroPep GbR v. Eli Lilly & Co.*, 276 F. Supp. 3d 629, 643 (E.D. Tex. 2017). "A new trial may be granted, for example, if the district court finds the verdict is against the weight of the evidence, the damages awarded are excessive, the trial was unfair, or prejudicial error was committed in its course." *Smith v. Transworld Drilling Co.*, 773 F.2d 610, 612–13 (5th Cir. 1985); *see also Laxton v. Gap Inc.*, 333 F.3d 572, 586 (5th Cir. 2003) ("A new trial is warranted if the evidence is against the great, and not merely the greater, weight of the evidence."). Furthermore "[u]nless justice requires otherwise, no error in admitting or excluding evidence—or any other error by the court or a party—is ground for granting a new

trial . . . the court must disregard all errors and defects that do not affect any party's substantial rights." FED. R. CIV. P. 61.

IV. BACKGROUND

At trial, Netlist asserted U.S. Patent Nos. 10,949,339 (the "'339 Patent"), 8,787,060 (the "'060 Patent"), 9,318,160 (the "'160 Patent"), 11,016,918 (the "'918 Patent"), and 11,232,054 (the "'054 Patent") (collectively, the "Asserted Patents"). (*See* Dkt. No. 561 at 1.) Samsung asserted that all asserted claims of the '339 Patent, the '918 Patent, and the '054 Patent were invalid as failing to comply with the written description requirement of 35 U.S.C. § 112 ¶ 1. (*See* Dkt. No. 561 at 37.) The jury found that at least one asserted claim of the '339 Patent was infringed, at least one asserted claim of the '918 and '054 Patents was infringed, and at least one asserted claim of the '060 and '160 Patents was infringed; that Samsung's infringement was willful; and that Samsung had not shown any claim to be invalid. (*See* Dkt. No. 480 at 4–6.) The jury awarded damages in the amount of $33,150,000.00 for the infringement of the '339 Patent, $147,225,000.00 for the infringement of the '918 and '054 Patents, and $122,775,000.00 for the infringement of the '060 and '160 Patents. (*Id.* at 7.)

V. ANALYSIS

Samsung moves for judgment as a matter of law ("JMOL") of non-infringement, no willfulness, invalidity, and no damages. (Dkt. No. 561 at 11–71.) Samsung also moves for a new trial on the same grounds it seeks JMOL. In addition, Samsung alleges that Netlist engaged in improper conduct at trial and that the Court erroneously excluded certain evidence. (*Id.* at 11–75.) The Court will consider each in turn.

A. Non-Infringement

Samsung moves for JMOL of non-infringement on all Asserted Patents or, in the alternative, a new trial on non-infringement on all Asserted Patents. (*Id.* at 11–37.) The Court will address each ground in turn.

i. The '339 Patent

At trial, Netlist asserted that Samsung infringed Claims 1, 8, and 9 of the '339 Patent. (Dkt. No. 480 at 2.) Claims 8 and 9 depend from Claim 1. Claim 1 of the '339 Patent recites a memory module comprising, among other things, "a plurality of byte-wise buffers." (*Id.* at 12.) Each buffer must have a "first side" coupled to the computer and a "second side" coupled to multiple "ranks" of DDR DRAM devices. (*Id.*) When data is written to the memory module, the buffer must "actively drive a respective byte-wise section" of the data from the first side of the buffer to the second side of the buffer. (*Id.*) The Court construed the phrase "to drive" to mean "enabling only one of the data paths while the other possible paths are disabled." (*Id.* at 12 (citing (Dkt. No. 114 at 10).) Netlist accused certain Samsung DDR4 LRDIMMs of infringing these claims of the '339 Patent. (Dkt. No. 561 at 9.)

In the Motion, Samsung argues that "the accused Samsung LRDIMM products do not satisfy the 'drive' limitation because the buffers used in Samsung's products do not have the required 'fork-in-the-road.'" (*Id.* at 13–14.) According to Samsung, at trial Netlist relied on a path that was 8-bits (*i.e.*, one byte) wide, contending that the path was actually two paths, or "nibbles," each 4-bits wide. (*Id.* at 14.) Samsung argues that the nibbles cannot satisfy the "byte-wise" limitation because the "byte-wise" limitation requires the paths to be 8-bits wide under the specification of the '339 Patent. (*Id.* at 14–16.)

Samsung next argues that Netlist has not shown that the LRDIMM products "enable[e] only one of the data paths while the other possible paths are disabled," as the claims require. (*Id.*

at 17.) According to Samsung, Netlist pointed to data paths that were not within the buffer. (*Id.*) Samsung contends that paths not within the buffer cannot satisfy the claim language. (*Id.* (quoting Dkt. No. 114 at 10 ("[T]he claims also require logic configurable to enable a data path to 'actively drive' write data from one side of the buffer to the other side.")).) Samsung urges that Netlist never contended that the nibbles referenced above meet the selective enabling requirement. (*Id.* at 18.)

In response, Netlist first contends that the "enablement" limitation is satisfied. (Dkt. No. 573 at 1.) To this point, Netlist first argues that the Court's construction only requires selective enablement ***if*** there are other paths. (*Id.* at 2 (quoting Dkt. No. 114 at 10 ("A skilled artisan would understand 'driving' data from one side of the buffer to the other means, when there are multiple paths in a buffer through which data can be driven, enabling only one of the data paths while the other possible paths are disabled.")).) Second, Netlist argues that if the construction requires multiple paths, it presented evidence of them—the two nibbles. (*Id.* at 2.) Further, Netlist contends that its expert, Dr. Mangione-Smith, testified that the data paths can operate independently and can be programmed so that one path is enabled while the other path is disabled. (*Id.* at 2–3.) Finally, Netlist argues that Samsung's expert, Mr. McAlexander, presented evidence that a read path is disabled when a write path is enabled, thus satisfying the claim construction. (*Id.* at 3–4.)

Netlist next contends that the "byte-wise data paths" limitation is satisfied by the two nibble-wide paths that operate independently. (*Id.* at 4–5.) Netlist urges that "byte-wise" was given its plain and ordinary meaning, and that Samsung is attempting to equate "byte-wise" with "byte-wide." (*Id.* at 5.) The claims recite both "byte-wise" and "byte-wide" and different terms are generally deemed to have different meanings. (*Id.* (citing *Applied Med. Res. Corp. v. U.S. Surgical Corp.,* 448 F.3d 1324, 1333 n. 3 (Fed. Cir. 2006)).) Next, Netlist argues that the specification does not support Samsung's interpretation. (*Id.* at 6.)

In reply, Samsung asserts that Netlist's arguments regarding the drive limitation fail. (Dkt. No. 577 at 1–2.) First, Samsung contends that the Court already rejected "Netlist's single-path argument" when it adopted the "fork-in-the road" construction. (*Id.* at 2.) Second, Samsung argues that the ability to set different latency delays for the nibbles does not mean that only one is enabled for a write operation. (*Id.*) Indeed, Samsung urges, it is undisputed that a [redacted] (*Id.*) Third, Samsung argues that this Court should reject Netlist's argument that the Court's construction is satisfied by enabling a write path while a read path is disabled because Magistrate Judge Payne rejected this same argument in other litigation. (*Id.* (citing *Netlist, Inc. v. Micron Tech., Inc.*, No. 2:22-cv-00203 (E.D. Tex.), Dkt. No. 249 at 25–26).)

Samsung then argues that Netlist's arguments concerning the "byte-wise" limitation are insufficient. (*Id.* at 2–3.) Samsung contends that this Court should reject Netlist's argument because Magistrate Judge Payne rejected this same argument in similar litigation. (*Id.* at 2–3 (citing *Netlist, Inc. v. Micron Tech., Inc.*, No. 2:22-cv-00203 (E.D. Tex.), Dkt. No. 249 at 24, 26).) Next, Samsung contends that Netlist's interpretation is untenable because it renders the claim term meaningless. (*Id.* at 3 (citing *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 801, 810 (Fed. Cir. 2021)).)

In sur-reply, Netlist first addresses the "enabl[ement]" limitation. (Dkt. No. 588 at 1–3.) Netlist again argues that the Court's construction does not require multiple paths. (*Id.* at 1.) Netlist also contends, in a footnote, that decisions in other cases are unavailing because the only question before the Court is whether Netlist met its burden to prove infringement under the constructions provided. (*Id.* at n. 1.) Next, Netlist again urges that the two nibbles operate independently. (*Id.* at 1–2.)

Regarding the "byte-wise" limitation, Netlist argues that Samsung is making a claim construction argument, which it has waived. (*Id.* at 2–3 (citing *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 520 (Fed. Cir. 2012)).)

As a preliminary matter, the Court agrees with Netlist that the only question before the Court is whether the jury's verdict is supported by sufficient evidence. In other words, it is irrelevant how Magistrate Judge Payne ruled on any similar issues in another case which is at a different stage.

First, the Court finds that there is substantial evidence that the LRDIMMs satisfied the "byte-wise data paths" limitation. The claims distinguish between "byte-wise" and "byte-wide," indicating that a "byte-wise data path[]" does not need to be eight bits wide. *Applied Med. Res. Corp,* 448 F.3d at 1333 n. 3 ("[T]he use of two terms in a claim requires that they connote different meanings … ."). Further, the jury heard evidence of two paths—the two nibbles. (*See, e.g.*, Dkt. No. 488 at 392:1–392:10 (Mangione-Smith) ("Q. Can you explain that for us? A. Sure. If we zoom in on this figure a little bit more, hopefully it becomes apparent that in the bottom right-hand edge, it refers to a lower nibble and an upper nibble. A nibble is just half of a byte. And if you look on the righthand side of that blow-up, hopefully it's apparent that there's two sets of these circuits stacked on top of each other. So there's actually one circuit for the upper half byte and one for the lower half byte.").) Samsung's remaining challenges regarding this term are claim construction challenges, which have long been waived. *See ePlus, Inc.*, 700 F.3d at 520 ("[I]f [defendant] desired such a narrow definition, it could (and should) have sought a construction to that effect.").

Second, the Court finds that there is substantial evidence that the LRDIMMs satisfied the "drive" limitation. Notably, the Court's Claim Construction Order required multiple paths when it

adopted the "so-called fork-in-the-road approach." (Dkt. No. 114 at 10.) There cannot be a fork within a single path. However, Netlist presented substantial evidence of two sets of multiple paths.

Netlist presented substantial evidence that the two nibbles are set up such that one is enabled while the other is disabled. (Dkt. No. 488 at 395:24–396:18 (Mangione-Smith) ("Q. And you're showing -- it's a little faded in the back. You're showing the back path is red and the front path is green. Do these two paths get enabled at the same time? A. No, they actually operate independently. They have their own latency delays that are programmed in."); *id.* at 396:4–18 (Mangione-Smith) ("Q. And is that how the system works? Is the first path enabled while all the other possible paths are disabled? A. That's exactly how it works.").)

The jury also heard evidence that a read path is disabled while the write path is enabled. (Dkt. No. 492 at 999:24–1000:15 (McAlexander) ("Q. And there is two data paths on the buffer, a read data path and a write data path. Is that correct? A. There is a read path and a write path, yes. Q. And they are both data paths. Is that correct? A. Sure. Q. And the -- on each of those read and write data paths, there's tri-state buffers. Correct? A. Yes. Q. And when the tri-state buffers are off, you can't transfer data on the path. Correct? A. Generally speaking, yes, that's correct. Q. And when the TX and RX are enabled, you will be able to transfer data on the path. Is that correct? A. When one of the other is enabled, yes. Q. And the read and write data paths can be turned off and on separately. Correct? A. One would hope so."); *id.* at 1000:23–25 (McAlexander) ("Q. And either the read path or the write path will be on. They will not be both on simultaneously. Correct? A. That is correct.").)

Nothing in the Court's Claim Construction Order required that the paths be from the same from one side of the buffer to the same other side of the buffer; in other words, nothing in the

Court's Claim Construction Order mandated that the enabled path and the disabled path be paths that flow in the same direction.

ii. The '060 and '160 Patents

Netlist accused certain Samsung HBM products of infringing claims 1, 5, and 7 of the '060 Patent and claim 5 of the '160 Patent. (Dkt. No. 561 at 19.) Claims 5 and 7 of the '060 Patent are dependent upon claim 1.

Samsung contends that there is not substantial evidence for the jury to find that the accused HBM products practiced two key limitations. First, all asserted claims of the '060 and '160 Patents require "array dies." The Court previously construed "array die" to mean an "array die that is different from a DRAM circuit " because Netlist disclaimed the use of "DRAM circuits" during prosecution. (Dkt. No. 114 at 32.) Netlist had argued in its *Markman* brief that it disclaimed only the use of the specific DRAM circuits in prior art reference Rajan, to the extent it disclaimed anything at all during prosecution. (*See* Dkt. No. 114 at 31–32.) However, the Court rejected that position. (*Id.* at 32.) Further, it is undisputed that the accused HBM products contain "DRAM cells" in "DRAM cores." (Dkt. No. 488 at 582:4–6 (Brogioli).)

Second, the asserted claims of the '060 and '160 Patents also require "die interconnect[s]" that are "not in electrical communication with" certain "array dies." (Dkt. No. 561 at 23.) It is undisputed that "the signal path in the accused products travels across each and every core die." (*See id.*)

Turning now to the parties' arguments, Samsung first argues that there is insufficient evidence to support the jury's finding that the accused Samsung HBM products contain an "array die that is different from a DRAM circuit." (*Id.* at 19–23.) Samsung contends that Dr. Brogioli, one of Netlist's technical experts, improperly distinguished between a "DRAM circuit" and a "DRAM circuit as that term is used in the Court's claim construction," because his distinction is

really a distinction between a DRAM circuit and the DRAM circuits used in Rajan. This is erroneous because the Court did not limit the disclaimer to the DRAM circuits in Rajan. (*Id.* at 20–22.) Next, Samsung contends that Dr. Brogioli erroneously distinguished between the claimed "array dies" and the disclaimed "DRAM circuits" based on the type of die interconnect used. (*Id.* at 22–23.) According to Samsung, Netlist's contention that "array dies" must use through-silicon vias ("TSVs") and that "DRAM circuits" must use "wire bonding," is contrary to the teaching of the '060 and '160 Patents. (*Id.* at 22.) Samsung urges that the '060 and '160 Patents list wire bonding as an acceptable method of connecting array dies. (*Id.*) Further, Samsung argues that the fact that TSVs are specified as an additional limitation of a dependent claim reinforces the point that "array dies" in claim 1 do not require the use of TSVs. (*Id.*) Samsung also argues that Dr. Brogioli offered no evidence to support his contention that all "DRAM circuits" use wire bonding, other than as a reference to Rajan. (*Id.* at 23.)

Regarding the "die interconnect" limitation, Samsung argues that Netlist failed to prove that the accused products have "die interconnects" that are "not in electrical communication with" certain "array dies." (*Id.* at 23–24.) According to Samsung, Netlist's argument that the die interconnects are not in communication with certain array dies because the path does not connect to a "data port" or "receiver[]" is legally insufficient because it does not comport with the specification. (*Id.* at 23–24.) Samsung urges that the specification refers to die interconnects being in electrical communication with various parts of a memory product, and also refers to electrical communication with the array dies themselves. (*Id.* at 24.) Thus, Samsung argues, when the claims recite electrical communication with the "array dies" themselves, they mean to claim electrical communication with any portion of the array die. (*See id.*) Samsung contends that since it is

undisputed that the signal path electrically connects every core die, Netlist cannot show that the accused HBM products practice this limitation. (*Id.*)

In response, Netlist first addresses the "array dies" limitation. (Dkt. No. 573 at 6–10.) Netlist first notes that Samsung does not dispute that its HBM products contain memory dies having array dies. (*Id.* at 7–8.) Next, Netlist contends that Dr. Brogioli explained to the jury that the core dies in Samsung's HBM products are not a "DRAM circuit." (*Id.* at 8.) Netlist notes that Samsung raised the argument that Dr. Brogioli did not apply the plain and ordinary meaning at the *Daubert* stage, and it was rejected. (*Id.* (citing Dkt. No. 202 at 7–9, Dkt. No. 432 at 16).) Netlist then contends that Dr. Brogioli did apply the plain and ordinary meaning of "DRAM circuit"—the only place "DRAM circuit" appears in the intrinsic record evidence is in connection with Rajan. Samsung does not dispute that the DRAM circuits in its HBM products are different than those described in the intrinsic evidence. (*Id.* at 8–9.) Further, Netlist contends that [redacted] (*Id.*at 9.) Netlist argues that "the Court's construction of 'array die' does not require that the 'array dies' cannot contain 'DRAM circuits.'" (*Id.* at 10.) Finally, Netlist argues that since [redacted] the jury could have found that Samsung's accused products have array dies that contain DRAM circuits, but which are different from DRAM circuits. (*Id.*)

Regarding the "not in electrical communication" limitation, Netlist argues that Samsung is making a claim construction argument by construing "electrical communication" to mean "electrical connection," and has waived this construction. (*Id.* at 10–11(citing *Music Choice v. Stingray Digital Grp., Inc.*, No. 2:16-cv-00586, 2019 WL 8110069, at *3 (E.D. Tex. Nov. 19, 2019)).) Netlist then contends that the jury could accept Dr. Brogioli's testimony that mere

electrical connection does not constitute electrical communication. (*Id.* at 11.) Dr. Brogioli explained [redacted]. (*Id.* at 11–13.)

In reply, Samsung first addresses the "array dies" limitation. (Dkt. No. 577 at 3–5.) Samsung first argues that Netlist is equating "DRAM circuit" to the DRAM circuit described in Rajan, which the Court has already rejected. (*Id.* at 3–4.) Samsung also argues that Dr. Brogioli did not apply the plain and ordinary meaning of "DRAM circuit," but the definition laid out in Rajan. (*Id.* at 4.) Samsung then contends that Netlist has not responded to its argument that numerous documents use the terms "DRAM" and "DRAM circuit" without requiring such circuits to be wire bonded as Netlist urges. (*Id.* at 4–5.) Samsung then urges that it is irrelevant that the Court denied Samsung's *Daubert* motion concerning Dr. Brogioli because the Court "must disregard" expert testimony that is "based on an incorrect understanding of the claim construction," as is Dr. Brogioli's. (*Id.* at 5 (quoting *Cordis Corp. v. Boston Sci. Corp.*, 658 F.3d 1347, 1357 (Fed. Cir. 2011)).) Finally, Samsung argues that Netlist's alternative argument—that the jury may have found that the accused HBM products contain DRAM circuits but that the array die as a whole is different than a DRAM circuit—was not presented to the jury by Netlist's expert. (*Id.*)

Regarding the "not in electrical communication with" limitation, Samsung argues that Netlist is improperly attempting to rewrite the plain language of the claims by contending that the interconnects do not connect to the data ports or receivers on certain dies. (*Id.* at 5–6.)

In sur-reply, Netlist first addresses the "array dies" limitation. (Dkt. No. 588 at 3–4.) Netlist argues that the jury heard ample evidence to support a finding that the accused products have array

dies containing DRAM circuits. (*Id.* at 3.) Netlist then contends that it did not limit its definition of "DRAM circuits" to the DRAM circuits described in Rajan; [redacted]. (*Id.* at 3–4.) Netlist then argues that the Court has already rejected these arguments at the *Daubert* stage and should reject them here as well. (*Id.* at 4.)

Regarding the "not in electrical communication" limitation, Netlist largely re-urges the same arguments it made in its response. (*See id.* at 4–5.)

The Court finds that Samsung's arguments, as to both disputed limitations, are without merit. First, there is legally sufficient evidence to support the jury's finding of infringement with respect to the "array dies" limitation. (*See* Dkt. No. 489 at 516:10–12 (Brogioli) [redacted].) Moreover, Samsung raised these same arguments at the *Daubert* stage and lost—Samsung does not now get a second bite at that same apple. (*See* Dkt. No. 202 at 7–9.) The fact that the Court ruled against Samsung at the *Daubert* stage shows that the Court already is persuaded that Dr. Brogioli's testimony is not inconsistent with the claim language. (*See* Dkt. No. 202 at 7–9 (Samsung arguing that Dr. Brogioli's opinion regarding the "array dies" limitation is inconsistent with the Court's construction); Dkt. No. 432 at 8 (denying Samsung's Motion to Strike Expert Testimony of Dr. Michael Brogioli).) Samsung's arguments that depend on the insufficiency of Dr. Brogioli's testimony are rejected on this ground.

Regarding Netlist's alternative theory—that the jury could have found that Samsung's core dies have components and functionality other than the basic DRAM cell and that the jury could have found that Samsung's accused products have array dies that contain DRAM circuit's but that

are themselves different from DRAM circuit's—the Court finds that it was not squarely presented to the jury, and so it is insufficient on its own.

The Court finds that substantial evidence was presented to the jury concerning the "not in electrical communication with" limitation. Netlist presented evidence [redacted] (Dkt. No. 489 at 517:20–518:10 (Brogioli) [redacted]; *id.* at 492:16–24 (Brogioli) [redacted]; *id.* at 519:21–520:9 (Brogioli) [redacted]

[redacted] Additionally, the Court rejects Samsung's attempt to equate "electrical communication" with "electrical connection." Simply because a die interconnect is electrically connected to an array die, does not mean it is in electrical communication with the array die.

iii. The '918 Patent

Netlist asserted that Samsung's SODIMM, UDIMM, and RDIMM products infringe claims 16, 18, and 19 of the '918 Patent and that Samsung's RDIMM products also infringe claims 1, 5, and 13 of the same. (Dkt. No. 561 at 24.) All asserted claims require a "converter circuit" configured to "provide a fourth regulated voltage." (*Id.*) The Court did not construe the term "converter circuit," so the plain and ordinary meaning applies. (*See id.* at 25.) Netlist contended that a low drop out ("LDO") regulator in the accused products was the required converter circuit. (*Id.*)

Samsung argues that Netlist failed to present any evidence that the plain and ordinary meaning of "converter circuit" encompasses an LDO regulator. (*Id.*) Instead, Samsung contends, Netlist treated the limitation as purely functional, such that anything that converts a voltage satisfies the limitation. (*Id.*) Netlist asserted that "[t]he claims impose no structural limitation on the claimed converter circuit," and Samsung contends that this assertion is wrong as a matter of law. (*Id.* at 26.) Samsung urges that purely functional limitations fail to comply with the Patent Act's requirement that the inventor "particularly point out and distinctively claim the part, improvement, or combination which he claims as his invention or discovery," unless they are means-plus-functions claims, and that Netlist failed to seek such a construction. (*Id.* at 26–27 (quoting *Halliburton Oil Well Cementing Co. v. Walker*, 329 U.S. 1, 9–10 (1946)).) Thus, Samsung argues, Netlist has relied on an impermissible functional construction. (*Id.* at 27.)

In a footnote, Samsung contends that a "converter circuit" must include a "switch" in which the switch is continually switching on and off the voltage to provide charge to an inductor. (*Id.* at 26 (quoting Dkt. No. 493 at 889:23–892:19 (McAlexander)).)

Samsung also argues that Netlist has failed to prove infringement under the doctrine of equivalents because the only testimony on the subject was a conclusory sentence by Dr. Mangione-Smith: "[an LDO is] equivalent because it does the same function which is to convert; it does it the same way, which is to reduce the input voltage; and it achieves the exact same result, which is a regulated output voltage." (*Id.* at 27 (quoting Dkt. No. 489 at 337:15–18 (Mangione-Smith)).) Samsung also argues that Dr. Mangione-Smith did not properly address the "way" prong of the function-way-result test because his testimony in this regard was conclusory. (*Id.*) Finally, Samsung argues that Dr. Mangione-Smith's own testimony contradicts any claim that an LDO regulator is equivalent to a converter circuit. (*Id.*) The only circuits the specification describes as converter circuits are buck converters, boost converters, and buck-boost converters. (*Id.*) However, Samsung notes, Dr. Mangione-Smith admitted that "buck converters and LDOs have fundamentally different characteristics as well as operational benefits and limitations," and that LDO regulators and buck converters are not interchangeable. (*Id.* at 27–28 (quoting Dkt. No. 489 at 415:5–8, 421:10–13).) According to Samsung, these admissions negate his doctrine of equivalents opinion. (*Id.* at 28.)

In response, Netlist argues that it presented substantial evidence that the LDO regulator is the claimed "converter circuit." (Dkt. No. 573 at 14–15.) Netlist then argues that the term "converter circuit" denotes structure, a circuit, and that Samsung is improperly attempting to import additional structural limitations to the term. (*Id.* at 15.) Netlist contends that this is a claim construction argument, which, at this stage, has been waived. (*Id.* at 15–16.) Even if the Court

were to entertain claim construction at this stage, Netlist contends that importation of a "switch" limitation into the term would contravene the basic principles of claim construction. (*Id.* at 16.) In any event, Netlist argues, its expert, Dr. Mangione-Smith, testified that the [redacted]." (*Id.* at 19 (quoting Dkt. No. 489 at 349:9–350:10 (Mangione-Smith)).)

Netlist also argues that it did not rely on an impermissible functional construction because the term "converter circuit" requires structure, namely "electrical components for voltage conversion." (*Id.* at 17–19.) Further, Netlist contends it put forth substantial evidence that Samsung infringed under the doctrine of equivalents—[a]ll of the evidence of record, including that discussed above, regarding the function and structure of the LDO supports not only literal infringement by infringement by equivalents." (*Id.* at 19–20.) Moreover, Netlist urges, Dr. Mangione-Smith's testimony that buck and boost converters are different from LDO regulators is irrelevant to the doctrine of equivalents analysis, which requires a comparison of the accused products to the claims, not the specification. (*Id.* at 20.) Finally, Netlist argues that Dr. Mangione-Smith did properly address the "way" prong of the function-way-result test by testifying that the converter circuit accomplishes the same result of a converter circuit by reducing the input voltage. (*Id.* at 20–21 (citing Dkt. No. 489 at 337:11–18 (Mangione-Smith)).)

In reply, Samsung re-urges that the term does not have structure, and argues that "electrical components" is a "meaningless phrase in the context of a memory module, which is nothing but electrical components." (Dkt. No. 577 at 6.) Samsung also contends that Netlist's definition is at odds with Magistrate Judge Payne's claim construction order in a similar case, where he rejected Netlist's position that the plain meaning of "converter circuit" was "a circuit for voltage conversion." (*Id.* at 6–7 (citing *Netlist, Inc. v. Micron Tech., Inc.*, No. 2:22-cv-00203 (E.D. Tex.), Dkt. No. 249 at 30, 32).) Samsung then argues that there is no testimony supporting Netlist's

contention that an LDO regulator is a voltage converter. (*Id.* at 7–8.) Finally, Samsung urges that Netlist fails to explain how the evidence in the record provides support for its doctrine of equivalents theory. (*Id.* at 8.)

In sur-reply, Netlist argues that Dr. Mangione-Smith testified that the LDO regulator in the accused products satisfied the "converter circuit" limitation. (Dkt. No. 588 at 5.) Netlist argues that Magistrate Judge Payne's *Markman* order confirms Netlist's interpretation. (*Id.* at 6–7 (citing *Netlist, Inc. v. Micron Tech., Inc.*, No. 2:22-cv-00203 (E.D. Tex.), Dkt. No. 249 at 31–32).) Finally, Netlist argues that Samsung's reply ignores Netlist's arguments and evidence that it presented in its opposition brief. (*Id.* at 7.)

The Court finds that there is substantial evidence that the LDO regulator in the accused products satisfies that "converter circuit" limitation. (*See, e.g.*, Dkt. No. 489 at 336:1–2 (Mangione-Smith) ("Q. You identified the LDO as the converter circuit? A. Yes, sir.") Samsung's contention that the "converter circuit" limitation does not contain structure is unpersuasive. The Court agrees with Netlist that the language of the claim requires electrical components for voltage conversion. Samsung contends that the phrase "electrical components for voltage conversion" is "meaningless," but it is just broad, not without meaning. (*See* Dkt. No. 577 at 6.) Samsung has not pointed to any authority that prevents structure from being defined broadly.

With regard to the doctrine of equivalents, the Court understands that the testimony elicited by Netlist might be viewed as conclusory and deficient when analyzed in complete isolation. Indeed, Netlist only elicited one sentence from Dr. Mangione-Smith that, standing alone could be considered as conclusory. (Dkt. No. 489 at 337:15–18 (Mangione-Smith) ("[an LDO is] equivalent because it does the same function which is to convert; it does it the same way, which is to reduce the input voltage; and it achieves the exact same result, which is a regulated output voltage.").)

However, this is to be considered, not in utter isolation, but against the backdrop of the entirety of Dr. Mangione-Smith's testimony. *Paice LLC v. Toyota Motor Corp.*, 504 F.3d 1293, 1305 (Fed. Cir. 2007) ("Our 'particularized testimony' standard does not require [an expert] to re-start his testimony at square one when transitioning to a doctrine of equivalents analysis. Indeed, we think it desirable for a witness to incorporate earlier testimony in order to avoid duplication.") In this context, Samsung objection as conclusory fails.

Samsung's argument that Dr. Mangione-Smith did not adequately address the "way" prong of the way-function-result test is also without merit because Dr. Mangione-Smith testified that the "way" the converter circuit accomplishes the result is by reducing the input voltage. (Dkt. No. 489 at 337:11–18 (Mangione-Smith).)

The fact that Dr. Mangione-Smith admitted that "buck converters and LDOs have fundamentally different characteristics as well as operational benefits and limitations" is wholly irrelevant. (*Id.* at 415:5–8.) Samsung appears to be making a claim construction argument: since the specification only describes buck converters, boost converters, and buck-boost converters as converter circuits, the "converter circuit" term must be equivalent to those structures under the doctrine of equivalents. Not so. Samsung cites no law indicating as much.

The Court will not entertain Samsung's late claim construction request to import a limitation from the specification—a "switch"—into the claim language. Even if the Court were to grant such a request, it would be satisfied. Netlist put on substantial evidence that the LDO regulators have a switch. (*See, e.g.*, Dkt. No. 389 at 349:9–350:10, 372:19–373:12 (Mangione-Smith).) This gets Samsung nowhere.

Finally, as discussed above, the question before the Court is whether the jury's verdict is supported by substantial evidence and so proceedings in other related cases are largely irrelevant, including Magistrate Judge Payne's *Markman* Order.

iv. The '054 Patent

Netlist asserted claims 16 and 17 of the '054 Patent against Samsung's DDR5 SODIMM, UDIMM, and RDIMM memory modules. (Dkt. No. 561 at 28.) Claim 17 depends from claim 16, which recites a "memory module comprising," among other things:

> a voltage monitor circuit coupled to an input voltage received from the host system via the interface, the voltage monitor circuit configured to detect an amplitude change in the input voltage, wherein, in response to the voltage monitor detecting an amplitude change in the input voltage, the memory module transitions from a first operable state to a second operable state.

(*Id.* at 28–29.) The parties agreed to construe "operable state" as a "state in which the memory module is operated." The parties further agreed to construe "first operable state" as "state in which the memory module is operated before transition," and "second operable state" as "state in which the memory module is operated after transition." (Dkt. No. 91-1 at 4.) Both sides' experts agreed that in the event of an amplitude change in the input voltage, the DRAM on the module is disabled, though some low-level circuitry receives power. (Dkt. No. 561 at 29.)

Samsung argues that Netlist has not shown sufficient evidence, as a matter of law, that the memory module has entered a "second operable state." (Dkt. No. 561 at 29.) According to Netlist's expert, Dr. Mangione-Smith, the memory module is in an operable state as long as any component receives power. (*Id.*) Samsung urges that Dr. Mangione-Smith's testimony is conclusory, as he presented no explanation as to why "powered" means "operated." (*Id.* at 30.) Further, Samsung argues that "[n]o reasonable jury could have found that the memory module is in an 'operable state' when the memory is turned off, thereby erasing the contents and rendering the memory unusable." (*Id.*)

Netlist argues in response that the jury is entitled to credit Netlist's evidence that the memory module is still in an operable state when module components are still operating. (Dkt. No. 573 at 21–22.) Netlist contends that many of Samsung's arguments in this regard are premised on an erroneous conclusion that the specification requires that the second state be for the purpose of transferring data from volatile memory to non-volatile memory on the module. (*Id.* at 22.) Netlist contends that this is improper *post-hoc* claim construction that Samsung has waived. (*Id.* at 22–23.) Netlist then describes various evidence presented to the jury. (*See id.* at 23–24.)

In reply, Samsung argues that the evidence shows that in the state identified by Netlist, the memory products are unable to perform memory operations and thus the memory module is not "operable" in the state identified by Netlist. (Dkt. No. 577 at 8–9.) Samsung then contends that it is not advancing a new claim construction, but demonstrating how Netlist's evidence fails to support the verdict under the plain and ordinary meaning of the agreed-upon construction, which is consistent with the specification. (*Id.* at 9.)

In sur-reply, Netlist notes that the claim recites "operable state" of a memory module, not memory devices. (Dkt. No. 588 at 7.) Netlist then describes various evidence presented to the jury. (*See id.* at 7–9.)

The Court finds that Samsung's request should be denied. Fundamentally, this dispute boils down to whether a memory module with some low-level circuitry that is operating, but nothing else (including the memory devices themselves), is in an "operable" state. Samsung said no, Netlist said yes, and the jury agreed with Netlist. This is a classic factual dispute—both sides presented their evidence, and the jury was entitled to credit Netlist's over Samsung's. Samsung has pointed to no reason why Netlist's evidence is deficient. Rather, Samsung merely re-argues the position it took at trial.

To be clear, there is substantial evidence that the memory module has a "second operable state." (*See, e.g.*, Dkt. No. 389 at 378:22–379:13 (Mangione-Smith) ("In the second operable state, after an overvoltage condition, for example, the DRAMs are turned off but other elements in the system continue to operate, such as the SPD that we talked about and temperature sensors and the RCD."); Dkt. No. 493 at 967:7–10 (McAlexander) [redacted]

v. Infringement of DDR5 Products

Netlist's infringement theories for the '918 and '054 Patents focused primarily on the Power Management Integrated Circuits ("PMICs") used in the accused DDR5 products. (Dkt. No. 561 at 31.) Across its entire line of DDR5 memories, consisting of 143 different product models, Samsung uses numerous different PMICs, supplied by at least four different companies: Samsung, Texas Instruments, Renesas, and Monolithic Power Solutions. (*Id.*)

Samsung argues that Netlist only introduced evidence as to three PMICs—the Samsung S2FPD01, Samsung S2FPC01, and Renesas P8911—and no others. (*Id.* at 31–32 (quoting *Medtronic Vascular, Inc. v. Boston Sci. Corp.*, 2008 WL 2744909, at *3 (E.D. Tex. July 11, 2008) ("A patentee . . . cannot simply assume that all of the accused products are like the one plaintiff's expert tested and thereby shift to the accused infringer the burden to show that is not the case." (cleaned up))).) Samsung also contends that, as to the three PMICs discussed at trial, Netlist's expert improperly relied on different PMICs to satisfy different limitations. (*Id.* at 32.) Specifically, Samsung urges that Dr. Mangione-Smith mixed-and-matched limitations from two Samsung PMICs, the S2FPD01 and the S2FPC01, and failed to opine that either PMIC both had "the required 'buck converters *and* was programmed to receive a pre-regulated input voltage.'" (*Id.* (emphasis in original).) Additionally, Samsung argues, Netlist did not present evidence that the Renesas P8911 PMIC had "the required buck converters or that it is 'configured to receive a pre-

regulated input voltage.'" (*Id.* at 32–33) Finally, Samsung argues that Netlist's failure infects all asserted claims of the '918 and '054 Patents. (*Id.* at 33.)

In response, Netlist first argues that Dr. Mangione-Smith testified that there was no material difference between the accused products. (Dkt. No. 573 at 25–26 (citing *TiVo, Inc. v. EchoStar Commc'ns Corp*., 516 F.3d 1290, 1308 (Fed. Cir. 2008)).) Next, Netlist argues that Dr. Mangione-Smith testified with regards to the S2FPD01 that "each of those blocks [the buck converters and LDO converter circuit] ***receives the pre-regulated input voltage*** and produces a regulated output voltage." (*Id.* at 26 (quoting Dkt. No. 489 at 334:25–335:18) (alterations in original).) Netlist also contends that Dr. Mangione-Smith presented the jury with the PMIC diagram from the [redacted] (Dkt. No. 573 at 26–27.) Netlist then argues that Samsung's arguments have no merit, which could infect the claims. (*Id.* at 27.)

In reply, Samsung argues that the context in which Dr. Mangione-Smith testified that there is "no material difference between these products" makes clear that "these products" was referring to the three types of DDR5 products—RDIMMs, UDIMMs, and SODIMMs—not all 143 products. (Dkt. No. 577 at 9–10 (quoting Dkt. No. 489 at 332:7–8).) Samsung then argues that *TiVo* is inapposite. (*Id.* at 10 (citing 516 F.3d 1290).)

In sur-reply, Netlist argues that Dr. Mangione-Smith testified that he analyzed all the products and found that there were no material differences between them, and that he frequently reminded the jury that his analysis applied to all accused products. (Dkt. No. 588 at 9–10.) Netlist also notes that Samsung does not cite any evidence that there were any material differences among the DDR5 products. (*Id.* at 10 (citing *TiVo*, 516 F.3d at 1308).) Netlist then argues that Samsung's

expert, Mr. McAlexander, made admissions from which the jury could have reasonably found infringement of all accused DDR5 devices. (*Id.* at 10–11.)

The Court is not persuaded by Samsung's arguments. As Netlist correctly notes, "there is nothing improper about an expert testifying in detail about a particular device and then stating that the same analysis applies to other allegedly infringing devices that operate similarly, without discussing each type of device in detail." *TiVo*, 516 F.3d at 1308. Samsung has not identified a material difference in the products, and Dr. Mangione-Smith testified that he "analyzed all of these products" and that found there was "no material difference between these products in terms of infringement." (Dkt. No. 489 at 332:1–12.) In light of these circumstances, the Court is not persuaded by Samsung's arguments.

The Court also finds that Netlist presented substantial evidence that the S2FPD01 and the S2FPC01 PMICs contained buck converters and were programmed to receive a pre-regulated input voltage. Samsung does not dispute that Dr. Mangione-Smith testified with regards to the S2FPD01 that "each of those blocks [the buck converters and LDO converter circuit] receives the pre-regulated input voltage and produces a regulated output voltage." (Dkt. No. 489 at 334:25–335:18.)

Similarly, the Court finds that Netlist presented substantial evidence that the Renesas P8911 PMIC contained buck converters and was programmed to receive a pre-regulated input voltage. Samsung does not contest that Netlist presented the jury with a Renesas data sheet, JTX30, showing three buck converters and a pre-regulated input voltage of 5 Volts. (*See also* Dkt. No. 489 at 337:7–10 (Mangione-Smith) ("And I put a figure for JTX 30 on the right-hand side which is the data sheet for Renesas's PMIC.").)

vi. Infringement of the DDR4 Products

Samsung argues that Netlist took an improper "mix-and-match" approach to the '339 Patent. (Dkt. No. 561 at 33.) Netlist accused at least 90 different DDR4 products under the '339

Patent but presented evidence as to only two models: the M386A8K40BM1 and M386A8K40BM2. (*Id.* at 34.) Thus, Samsung argues it is entitled to JMOL that no other model infringes. (*Id.* (citing *Medtronic Vascular*, 2008 WL 2744909, at *3).)

Samsung argues that Netlist's evidence also fails as to the M386A8K40BM1 and M386A8K40BM2 models because Netlist failed to present any evidence that the products have the claimed "data buffers." (*Id.*) According to Samsung, Netlist's expert, Dr. Mangione-Smith relied on an integrated circuit manufactured by third-party Renesas, the 4DB0232KC2, but did not present any evidence that the M386A8K40BM1 or M386A8K40BM2—or any other accused product—contained a Renesas 4DB0232KC2 data buffer. (*Id.*) Samsung then contends that this failure is apparent from Netlist's demonstratives. (*Id.* at 34–36.)

In response, Netlist contends that Dr. Mangione-Smith explained that his analysis applied to Samsung's "DDR4 LRDIMM products," and used two representative models, the M386A8K40BM1 ("–BM1") and M386A8K40BM2 ("–BM2"). (Dkt. No. 573 at 28 (citing *TiVo, Inc.*, 516 F.3d at 1308).) Netlist then contends that Dr. Mangione-Smith presented evidence that the –BM1 and –BM2 devices contained a Renesas 4DB0232KC2 ("–KC2") data buffer. (*Id.*) Netlist contends that its slide (as corrected) referenced JTX28—which is a datasheet covering two representative DDR4 LRDIMM products, –BM1 and –BM2—and contained blue boxes showing the location of data buffers. (Dkt. No. 573 at 29.) Further, Netlist urges that Dr. Mangione-Smith made clear that he was discussing JTX-28 when discussing this slide and the data buffers in the accused products. (Dkt. No. 573 at 30.) Finally, Netlist argues that Dr. Mangione-Smith explained how all the same functionality that he discussed concerning the Renesas data buffer operates in the –BM1 and –BM2 products, as reflected in the datasheets. (*Id.* at 31–32.)

In reply, Samsung argues that Dr. Mangione-Smith never (a) testified that he was treating the –BM1 and –BM2 products as representative, (b) claimed to have examined any of the other 88 products, or (c) discussed how the other 88 products related to the two he addressed. (Dkt. No. 577 at 10–11.) Even as to the –BM1 and –BM2 products, Samsung contends that Netlist presented no evidence that the –KC2 buffer is used in either product. (*Id.* at 11.) Samsung also argues that Netlist does not show how the same functionality in the –KC2 buffer is present in –BM1 and –BM2. (*Id.*) Further, Samsung argues, Netlist does not explain how the products satisfy the "drive" limitation. (*Id.*)

In sur-reply, Netlist notes that Dr. Mangione-Smith began his analysis by testifying that the "DDR4 LRDIMM products" are the accused Samsung products that use the inventions of the '339 Patent. (Dkt. No. 588 at 11.) Netlist argues that Dr. Mangione-Smith then relied on JTX28 and "testified in detail" how they infringe the '339 Patent. (Dkt. No. 588 at 11 (quoting *TiVo*, 516 F.3d at 1308).) Next, Netlist argues that Dr. Mangione-Smith did analyze the functionality of the –KC2 buffer and shows how that same functionality is present in the –BM1 and –BM2 products. (*Id.*)

The Court is not persuaded by Samsung's arguments. Dr. Mangione-Smith clearly treated the accused DDR4 products as materially the same for the purposes of infringement throughout the trial, testifying that the "DDR4 LRDIMM products" are the accused Samsung products under the '339 Patent. (Dkt. No. 489 at 387:15–16.) Further, Samsung has not identified any material differences between any two models. Dr. Mangione-Smith then analyzed the –BM1 and –BM2 models in depth, indicating that these models were representative. In light of all these circumstances, the jury was likewise entitled to treat the –BM1 and –BM2 models as representative. *See TiVo*, 516 F.3d at 1308.

Additionally, there was substantial evidence that the accused products contain data buffers. Dr. Mangione-Smith discussed JTX28 when discussing data buffers in the accused products. (Dkt. No. 395:2–5 ("This image is from JTX 28, and it sort of shows that there's a relationship, but if we look -- relationship in terms of position. It shows that the signal lines go into those data buffers.").) Dr. Mangione-Smith also showed a slide to the jury containing a portion of JTX28 with boxes over the data buffers, highlighting their location. (*See* Dkt. No. 573 at 28–29.)

The Court finds that there was substantial evidence for the jury to find that the –BM1 and –BM2 products contained the –KC2 data buffer. Dr. Mangione-Smith provided testimony concerning the functionality of Renesas –KC2 data buffer and how that same functionality is present in –BM1 and –BM2 as reflected in the datasheets, JTX28. (Dkt. No. 489 at 391:16–393:22.) [redacted]. (Dkt. No. 493 at 921:5-14 (McAlexander) ("[redacted]).) Taking this evidence together, there is substantial evidence that the –BM1 and –BM2 products have the claimed "data buffers."

vii. New Trial on Infringement

Samsung argues that if the Court does not grant JMOL of non-infringement, the Court should grant a new trial because the verdict was against the great weight of the evidence and was based on Netlist's improper and highly prejudicial arguments. (Dkt. No. 561 at 36.) Samsung then repeats some of the arguments it made in connection with its grounds for JMOL detailed above.

(*Id.* at 37.) In response, Netlist argues no new trial is warranted because Samsung's arguments are simply rehashes of its arguments for JMOL, which should be denied. (Dkt. No. 573 at 32.) In reply, Samsung argues that Netlist failed to offer any independent argument as to why the verdict is not against the clear weight of the evidence. (Dkt. No. 577 at 11.) Samsung then contends that it is clear a new trial is warranted if JMOL is not granted. (*Id.*) Netlist does not address this topic in sur-reply. (*See* Dkt. No. 588.)

The Court finds that a new trial is not warranted. The verdict on infringement is not against the great weight of the evidence, and the Court is not persuaded that Samsung has been unduly or unfairly prejudiced by Netlist's arguments.

B. Invalidity

Samsung asserted that all asserted claims of the '339 Patent, the '918 Patent, and the '054 Patent were invalid as failing to comply with the written description requirement of 35 U.S.C. § 112 ¶ 1, but the jury disagreed. (*See* Dkt. No. 561 at 37.)

A patent satisfies the written description requirement when "the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date." *Mentor Graphics Corp. v. EVE-USA, Inc.*, 851 F.3d 1275, 1276 (Fed. Cir. 2017). Written description may be supplied by any "words, structures, figures, diagrams, formulas, etc." in the patent that "set forth the claimed invention." *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1346 (Fed. Cir. 2016). "Whether a patent claim is adequately supported by the written description under 35 U.S.C. § 112 is a question of fact that [is] review[ed] for substantial evidence following a jury trial." *Intellectual Ventures I LLC v. Motorola Mobility LLC*, 870 F.3d 1320, 1324 (Fed. Cir. 2017).

i. The ’918 and ’054 Patents

In 2008, Netlist filed a patent application for a hybrid memory module that transfers data between volatile DRAM memory and non-volatile flash memory on the same module. (Dkt. No. 561 at 38.) In December 2020 and May 2021, Netlist filed the sixth and seventh continuations of that application in an attempt to claim memory modules without any non-volatile memory at all. (*Id.*) Those continuations issued as the ’918 and ’054 Patents, respectively. (*Id.*)

Samsung argues that the shared specification of the ’918 and ’054 Patents dictates that the alleged invention is a hybrid memory module, as its expert, Mr. McAlexander, testified. (*Id.* at 38–40.) According to Samsung, a hybrid memory module is one that incorporates both volatile and non-volatile memory. (*Id.* at 40.) Samsung notes that Mr. Milton, the only named inventor to testify, admitted that the “[t]he concept [he] invented was putting that all on one module.” (*Id.* (quoting Dkt. No. 481 at 244:22–24).)

Next, Samsung argues that Netlist “impermissibly broadened” the claims of the ’918 and ’054 Patents during prosecution, such that they no longer claim the invention: the hybrid memory module described in the specification. (*Id.*) Instead, Samsung notes that the claims recite a “new alleged invention” which Netlist has described as “intelligent on-module power management,” which does not require a hybrid module capable of transferring data between volatile and non-volatile memory. (*Id.* at 40–41.) Samsung asserts that “[b]y dropping the hybrid memory structure required by the written description, Netlist improperly expanded the scope of the asserted claims to cover non-hybrid devices.” (*Id.* at 41–42 (citing, among others, *Atl. Rsch. Mktg. Sys. v. Troy*, 659 F.3d 1345, 1355 (Fed. Cir. 2011); *PIN/NIP, Inc. v. Platte Chem. Co.*, 304 F.3d 1235, 1247 (Fed. Cir. 2002)).) Indeed, Samsung contends, the specification teaches against prior embodiments without non-volatile memory. (*Id.* at 42–43.)

Samsung next contends that Netlist's evidence cannot support the verdict. (*Id.* at 42–46.) It claims that Netlist's argument that the invention is an "intelligent on-module power management" without a hybrid memory system system finds no support in memory system 1010 of Figure 12, which Netlist relied on at trial because the embodiment in Figure 12 incudes non-volatile memory 1040. (*Id.* at 43.) Further, Samsung contends that Netlist's argument that Figures 15A and 15B of the specification show an embodiment without non-volatile memory is deficient because the specification explains that these figures depict only the "volatile memory subsystem" portion of a complete hybrid module that includes non-volatile memory. (*Id.* at 43–44.) Also, Samsung argues that testimony that the specification discloses an embodiment in which the non-volatile memory is a hard disk separate from the memory module cannot support the verdict because its own expert, Mr. McAlexander testified that this excerpt of the specification actually discloses a hybrid memory module with both volatile and non-volatile memory. (*Id.* at 44–45.)

Samsung then argues that "[n]one of the excerpts discussed above support[] the jury verdict" because "Netlist failed to present evidence that any of these alleged non-hybrid embodiments included all claim limitation or could otherwise be combined with other disclosures in the specification to form the claimed memory modules." (*Id.* at 45–46 (quoting *Novozymes A/S v. DuPont Nutrition Biosciences APS*, 723 F.3d 1336, 1349 (Fed. Cir. 2013) (criticizing a patentee "seek[ing] to derive written description support from an amalgam of disclosures plucked selectively")).)

Lastly, Samsung argues that Netlist's infringement read of "converter circuit" to include an LDO regulator means that the claims fail for a lack of written description because the specification only describes buck converters, boost converters, and buck-boost converters. (*Id.* 46–47.)

In response, Netlist begins by arguing that the invention in the shared specification is not limited to hybrid modules. (Dkt. No. 573 at 33.) Indeed, Netlist contends, the evidence it adduced at trial including testimony from Mr. McAlexander, showed that the shared specification contemplated a memory module where non-volatile memory is located elsewhere in the system. (Dkt. No. 573 at 33–35.) Netlist also notes that Mr. Milton, a named inventor, testified that "there are several inventions embodied in that application." (*Id.* at 35–36 (quoting Dkt. No. 487 at 239:23–240:2).) Also, Netlist argues that the shared specification discloses that non-volatile memory may be located in the controller. (*Id.* at 36.) "[U]ltimately," Netlist argues, "the fact that the patents discuss hybrid modules does not change the fact that they ***also*** describe embodiments with non-hybrid modules where non-volatile memory is not on the module." (*Id.* (quoting *Allergan Sales, LLC v. Sandoz, Inc.*, 717 F. App'x 991, 995 (Fed. Cir. 2017) ("Even a single representative embodiment can support written description.")).)

Netlist goes on to argue that it did not improperly expend the scope of its claims through continuation applications, as the specification supports claims without non-volatile memory. (*Id.* at 37–38.) Netlist then contends that it was Samsung's burden to prove lack of written description by clear and convincing evidence, not Netlist's burden to present evidence that there was written description support. (*Id.* at 38–39.)

Finally, Netlist addresses Samsung' argument concerning the "converter circuit" limitation. (*Id.* at 39–41.) Netlist argues that Samsung's arguments in this regard are waived because they did not present them at trial or move on them under Rule 50(a). (*Id.* at 39–40.) Netlist then contends that even if these arguments are not waived, they fail on the merits. (*Id.* at 40–41.) Specifically, Netlist argues [redacted], and

that the specification states that "various converter circuits" may be used, including "other types of converters" that differ from buck, boost, or buck-boost converters. (*Id.* at 41.)

In reply, Samsung argues that Mr. McAlexander did not admit that the specification discloses an embodiment "where non-volatile storage is not part of the module." (Dkt. No. 577 at 12–13.) Samsung also argues (again) that Figures 15A and 15B show only the volatile memory subsystem of a larger hybrid module. (*Id.* at 13.) Samsung then contends (again) that "Netlist fails to cite evidence that any of the alleged non-hybrid embodiments in the specification includes a disclosure of all claim limitations or could be combined with other disclosures to form the claimed memory modules." (*Id.* at 13–14.)

Concerning the "converter circuit" limitation, Samsung summarily asserts that "Netlist does not identify any basis on which a person of skill in the art would have that understanding of the specification." (*Id.* at 14.) Samsung also asserts that it raised the issue at trial and in its Rule 50(a) motion. (*Id.*)

In sur-reply, Netlist argues that Samsung ignores that the specification expressly discloses a non-hybrid memory module where the non-volatile memory is located elsewhere in the system and ignores testimony to the same effect. (Dkt. No. 588 at 11–12.) Netlist then asserts that [redacted]. (*Id.* at 12.) Netlist then urges that Samsung's contentions that the specification does not disclose such an embodiment are wrong. (*Id.* at 12–13.) Netlist next states (again) that it was Samsung's burden to prove lack of written description, not Netlist's. (*Id.* at 13.)

Finally, Netlist addresses Samsung's arguments regarding the "converter circuit" limitation. (*Id.* at 13–14.) Netlist again asserts that Samsung has waived the argument, and again

urges that it has shown substantial evidence that a person of skill in the art would understand an LDO to be a converter circuit. (*Id.* at 14.)

The Court is not persuaded by Samsung's arguments. It was Samsung's burden to prove "by clear and convincing evidence" that the patents were invalid. *Core Wireless*, 880 F.3d at 1364. *See also*, 35 U.S.C. § 282 ("A patent shall be presumed valid. … The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity."). The jury found that Defendants did not meet their substantial burden, and the Court sees no basis to overturn their determination.

Notably, in *Core Wireless*, the Federal Circuit held that "[b]ecause the burden rests with the alleged infringer to present clear and convincing evidence supporting a finding of invalidity, granting judgment as a matter of law for the party carrying the burden of proof is generally 'reserved for extreme cases.'" 880 F.3d at 1364. An "extreme case[]" would be when something drastic occurs, "such as when the opposing party's witness makes a key admission." *Id.* No such admissions were made here.

Samsung's arguments fail on the merits. Samsung contends that the specification does not disclose an embodiment where non-volatile memory is not on the memory module, but Netlist presented substantial evidence otherwise. First, the shared specification discloses such an embodiment:

> For example, in one embodiment, the host system (e.g., a disk controller) writes data to the volatile memory subsystem **1030** which then writes the data to non-volatile storage ***which is not part of the memory system*** **1010,** such as, for example, a hard disk. The disk controller may wait for an acknowledgment signal from the memory system **1010** indicating that the data has been written to the hard disk or is otherwise secure. The memory system **1010** of certain embodiments can decrease delays in the system operation by indicating that the data has been written to the hard disk before it has actually done so. In certain embodiments, the memory system **1010** will still be able to recover the data efficiently in the event of a power outage because of the backup and restore capabilities described herein. In certain

> other embodiments, the memory system **1010** may be operated as a write-through cache or as some other type of cache.

'918 Patent at 27:42–58 (emphasis supplied). Samsung contends that this portion of the specification omits context indicating that memory system 1010 is a hybrid module containing both volatile memory subsystem 1030 and non-volatile memory subsystem 1040 (*see* Dkt. No. 577 at 12 (citing '918 Patent at 27:16–40)). However, this overlooks the oft repeated prefatory phrases like "in certain embodiments" or "in one embodiment." *See* '918 Patent at 27:14–58. The passage quoted above is described as a standalone embodiment, meaning that the specification expressly contemplates a memory module that does not contain non-volatile storage.

Witnesses for both Netlist and Samsung corroborate this. Named inventor Mr. Milton testified that the specification teaches an embodiment where the "non-volatile memory or flash is not on the module." (Dkt. No. 481 at 197:10–14.) Indeed, Mr. Milton testified that "there are several inventions embodied in that application." (Dkt. No. 487 at 239:23–240:2.) Netlist's expert, Dr. Mangione-Smith testified that "in this embodiment of the patent, the non-volatile memory is not on that memory module." (Dkt. No. 489 at 469:22–13.) Samsung's expert, Mr. McAlexander, gave similar testimony. (Dkt. No. 493 at 962:24–963:4 [redacted]

Figures 15A and 15B support neither Netlist's nor Samsung's theory. The specification makes clear that these figures illustrate a "volatile memory subsystem," but nothing in the specification either requires that the subsystems depicted be part of a memory module containing non-volatile memory or forbids the subsystems depicted from being part of a memory module that does not contain non-volatile memory. *See* '918 Patent at 23:41–64. This, however, is without

import in light of the substantial evidence described above that the specification discloses an embodiment of a memory module that does not contain non-volatile memory.

Samsung's arguments regarding the "converter circuit" limitation also fall short. As an initial matter, however, Samsung did not waive its arguments. Contrary to Netlist's suggestions, this argument was sufficiently presented at the Rule 50(a) hearing. Counsel for Samsung argued that

> Doctor Mangione-Smith also admitted that the written description did not support the full scope of the claims. For example, Doctor Mangione-Smith admitted that there was no written description support for that LDO regulator that the parties are -- are disputing that he's now claiming that is an issue for infringement.

(Dkt. No. 495 at 1251:13–18.) Though Samsung did not reference the "converter circuit" claim, such is not fatal. In fact, the "LDO regulator" was consistently brought up in connection with the "converter circuit" term such that Netlist was on fair notice. Further, this argument was presented to the jury, though not clearly so. (*See* Dkt. No. 493 at 876:24–877:25 (McAlexander) [redacted]

[redacted]

Ultimately, the Court does not conclude that Netlist was not on fair notice of this argument.

Nonetheless, Samsung's arguments fail on the merits. The jury heard substantial evidence that the written description for "converter circuit" supports an LDO regulator and that an LDO regulator falls within the plain meaning of "converter circuit." [redacted] (Dkt. No. 493 at 953:2–8.) [redacted] (*See* Dkt. No. 489 at 349:24–350:10, 372:18–23.) Moreover, the specification does not limit "converter circuit" to only buck converters, boost converters, and buck-boost converters as Samsung contends. (Dkt. No. 561 at 47.) The specification contemplates that "various converter circuits" may be used and that this may include "other types of converters." '918 Patent at 29:24, 29:59–60.

Samsung's argument that "Netlist failed to present evidence that any of these alleged non-hybrid embodiments included all claim limitations or could otherwise be combined with other disclosures in the specification to form the claimed memory modules" fails. (*See* Dkt. No. 561 at 45.) First, this turns the burden of proof on its head. 35 U.S.C. § 282. Second, Samsung has only argued that Netlist has failed to show (1) that the specification contemplates a memory module without non-volatile memory and (2) that the specification supports a reading of "converter circuit" that includes an LDO, but, as described above, both these arguments fail—substantial evidence was presented on both these grounds. Samsung summarily asserts that "Netlist has offered no evidence that a person of ordinary skill in the art … would know to combine the alleged non-hybrid embodiments with other disclosures in the manner required by the asserted claims," but this

again ignores that it is Samsung's burden to show invalidity by clear and convincing evidence. (Dkt. No. 561 at 46.)

In short, Samsung has failed to persuade the Court why or how it might have carried its heavy burden.

ii. The '339 Patent

Samsung argues that Netlist's infringement read of the "drive" limitation of the '339 Patent stretches the claims beyond written description support. (Dkt. No. 561 at 47–48.) Dr. Mangione-Smith asserted that the claims are met by "a single byte-wise data path in the byte-wise buffer," without a "fork-in-the-road." (*Id.* at 47 (quoting Dkt. No. 489 at 448:25–449:4).) However, in the Court's Claim Construction Order, the Court recognized that "the sole embodiment describing path selection during a write operation disables one path within the buffers when the other path is enabled." (*Id.* at 47–48 (quoting Dkt. No. 114 at 10).) Samsung asserts that Netlist did not offer any support for its assert that the '339 Patent discloses embodiments without a "fork-in-the-road." (*Id.* at 48.)

Netlist argues in response that the '339 Patent teaches that a single path may be sufficient with two rank memory modules. (Dkt. No. 573 at 41.) Netlist contends that the jury chose to reject Samsung's arguments and accept Netlist's and that the Court should not overturn the jury's conclusion. (*Id.*)

In reply, Samsung argues that Netlist again ignores the Court's Claim Construction Order. (Dkt. No. 577 at 14.) Samsung also contends that the portions of the specification and the testimony cited by Netlist in its response do not support its assertions. (*Id.* at 14–15.)

In sur-reply, Netlist argues that the specification teaches embodiments where a single path is sufficient. (Dkt. No. 588 at 14.) Netlist then argues that the Court's Claim Construction Order is

not to the contrary and that the statement referenced by Samsung concerns a different embodiment. (*Id.* at 14–15.)

The Court is not persuaded by Samsung's arguments. First, Netlist's infringement read does not depend on a single path—indeed, the Court's construction requires a "fork-in-the-path." (Dkt. No. 114 at 10.) In any event, Samsung does not dispute that the specification discusses embodiments containing a single path. '339 Patent at 4:48–64, 5:4–16. Samsung complains that these provisions come from the section discussing prior art, but the background can supply written description support just like any other part of the specification. *See Storz Instrument Co. v. Alcon Labs., Inc.*, 1998 WL 50947, at *4–6 (Fed. Cir. 1998) (finding statement in "Background and Summary of the Invention" supported written description).[1]

iii. New Trial

Samsung argues that the Court should grant a new trial if it does not grant Samsung JMOL on written description because the jury's verdict stands against the "clear weight of the evidence." (Dkt. No. 561 at 48.) Samsung also argues that the Court's failure to instruct the jury that a "broad claim is invalid when the specification clearly indicates that the invention is of a much narrower scope" was prejudicial and that this necessitates a new trial on written description. (*Id.* (citing *Cooper Cameron Corp. v. Kvaerner Oilfield Prods.*, 291 F.3d 1317, 1322 (Fed. Cir. 2002)).)

Netlist argues in response that there is no basis for a new trial on written description because the jury's decision was supported by substantial evidence. (Dkt. No. 573 at 42.) Netlist then contends that a new trial based on improper jury instructions is only proper if "substantial and

[1] *Storz* is unpublished. 1998 WL 50947. Federal Cirucit Rule 32.1(d) provides that "[t]he court may refer to a nonprecedential or unpublished disposition in an opinion or order and may look to a nonprecedential or unpublished disposition for guidance or persuasive reasoning but will not give one of its own nonprecedential dispositions the effect of binding precedent." Since the Federal Circuit would consider *Storz* persuasive but not binding, the Court finds it persuasive in this context.

ineradicable doubt whether the jury has been properly guided in its deliberations." (*Id.* (quoting *OPTi, Inc. v. VIA Techs., Inc.*, 65 F.Supp.3d 465, 482 (E.D. Tex. 2014)).) Netlist asserts that Samsung has identified "no such doubt." (*Id.*) Further, Netlist urges that the Court gave the jury a complete instruction on written description. (*Id.*) Netlist then argues that Samsung has not identified any error in the Court's instructions to the jury, much less prejudicial error. (*Id.*) Indeed, Netlist argues, the Court's instruction regarding written description comports with the case cited by Samsung, *Cooper Cameron*, 291 F.3d 1317. (Dkt. No. 573 at 42–43.)

In reply, Samsung argues that Netlist uses the wrong standard for setting aside a verdict based on jury instructions. (Dkt. No. 577 at 15.) Samsung also argues that the Court's instructions failed to address Samsung's core argument in this case—*i.e.*, the asserted claims omit essential elements described in the specification. (*Id.*)

In sur-reply, Netlist argues that Samsung's argument that the Court did not instruct the jury about a theory that "the asserted claims omit essential elements described in the specification" is waived since it was raised for the first time in reply. (Dkt. No. 588 at 15.) Netlist also contends that it is wrong because it is contrary to Federal Circuit law which holds that a claim need not include all features of an invention recited in the specification. (*Id.* (citing, among others, *AllVoice Computing PLC v. Nuance Commc'ns, Inc.*, 504 F.3d 1236, 1248 (Fed. Cir. 2007) ("each claim need not include every feature of an invention")).)

The Court finds that a new trial is not warranted. The verdict is supported by substantial evidence and is not against the great weight of the evidence. The Court also finds that Samsung has failed to show that the jury instruction was erroneous, regardless of the standard used. Samsung has not argued that the instruction caused any specific prejudice, or that the outcome would have been different had the Court used Samsung's preferred instructions. Further, the Court's

instruction—the "specification must describe the full scope of the claimed invention, including each element therefore -- thereof, either expressly or inherently"—captures Samsung's proposed instruction—a "broad claim is invalid when the specification clearly indicates that the invention is of a much narrower scope." (Dkt. No. 493 at 1319:2–5; Dkt. No. 561 at 48.) Samsung also argues that the failure to include its instruction meant that the Court's instructions failed to address Samsung's invalidity argument that the asserted claims omit essential elements, but neither does Samsung's proposed instruction does not address this argument. (*See* Dkt. No. 577.) Samsung's proposed instruction is just a re-encapsulation of the idea communicated by the Court's instruction—that the specification must describe the full scope of the claims—and has no bearing on whether the claims must claim an aspect of an invention described in the specification. In any event, a claim need not include all features of an invention recited in the specification. *AllVoice Computing PLC v. Nuance Commc'ns, Inc.*, 504 F.3d 1236, 1248 (Fed. Cir. 2007) ("each claim need not include every feature of an invention"); *Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1331 (Fed. Cir. 2004) ("patentees were not required to include within each of their claims all of these advantages or features described as significant or important in the written description"). Accordingly, a new trial on invalidity is not warranted.

C. Damages

The jury awarded Netlist $303.15MM as a reasonable royalty in the form of a running royalty. (*See* Dkt. No. 480 at 7.) Samsung argues that the Court should grant JMOL of no damages, grant JMOL of damages no more than $19.3MM, grant a new trial on damages, or condition a new trial on damages on remittitur. (Dkt. No. 561 at 48–63.)

i. Award of 100% of the Revenue Conferred by the Asserted Patents and Apportionment

Netlist's damages expert, Mr. Kennedy, admitted that his damages calculations award to Netlist 100% of the revenue associated with the technology at issue. (Dkt. No. 491 at 775:1–7 [redacted] ")

Samsung contends that no reasonable jury could find that Samsung would have agreed to Netlist's proposed royalty of 100% of the revenue associated with the technology at issue. (Dkt. No. 561 at 50.) Samsung argues that courts have consistently held that awarding a patentee 100% of the alleged infringer's profits is "unreasonable" and "insupportable." (*Id.* at 50–51 (citing *Contour IP Holding, LLC v. GoPro, Inc.*, 2020 WL 5106845, at *14 (N.D. Cal. Aug. 31, 2020), *Looksmart Grp., Inc. v. Microsoft Corp.*, 2019 WL 4009263, at *3 (N.D. Cal. Aug. 5, 2019), *Nordock, Inc. v. Systems, Inc.*, 2013 WL 989864, at *8 (E.D. Wis. Mar. 13, 2013), *Zegers v. Zegers, Inc.*, 458 F.2d 726, 728 n.8 (7th Cir. 1972)).) Based on this, Samsung argues that an award of 100% of the revenues cannot be justified. (*Id.* at 51–52.) Samsung also contends that Mr. Kennedy's "damages theory" is really a disgorgement theory in disguise, which Congress eliminated long ago. (*Id.* at 52 (citing *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 505 (1964) (holding that Congress amended Section 284 "precisely to eliminate the recovery of [the infringer's] profits . . . and allow recovery of damages only")).) Last, Samsung argues that Mr. Kennedy's is a more improper version of the 25% and 50% rules of thumb that have been rejected by the Federal Circuit. (*Id.* at 52–53 (citing *See Labyrinth Optical Techs. LLC v. Alcatel-Lucent USA, Inc.*, 2015 WL 12696081, at *4 (C.D. Cal. Sept. 2, 2015)).)

In response, Netlist first argues that "[a] jury's decision with respect to an award of damages must be upheld unless the amount is grossly excessive or monstrous, clearly not supported by the evidence, or based only on speculation or guesswork." (Dkt. No. 573 at 43 (quoting *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1310 (Fed. Cir. 2009)).) Netlist then argues that the facts in evidence before the jury constitute substantial evidence that supports the jury's award. (*Id.* at 43–44.) Netlist contends that Mr. Kennedy analyzed the *Georgia-Pacific* factors, relying primarily on the value that Samsung obtained from the technology. (*Id.* at 44.) Netlist then walks through the analysis Mr. Kennedy performed for each class of products—DDR4, DDR5, and HBM. (*Id.* at 44–46.) Netlist argues that these analyses are precisely what the Federal Circuit requires: to identify the incremental benefits of the patent, and to "estimate the value of the benefit provided by the infringed features by comparing the accused product to non-infringing alternatives." (*Id.* at 46–47 (quoting *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1315 (Fed. Cir. 2014), *overruled on other grounds by Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015)).)

Netlist also argues that it was proper for Mr. Kennedy to allocate as damages 100% of revenue associated with the technological benefit conferred upon Netlist. (*Id.* at 47–52.) Netlist also urges that Samsung's JMOL arguments are simply rehashes of its *Daubert* motion against Kennedy, which is improper at the Rule 50(b) stage. (*Id.* at 47–48 (citing *Versata Software Inc. v. SAP Am. Inc.*, 717 F.3d 1255, 1264 (Fed. Cir. 2013)).) Netlist then contends that "[t]he Federal Circuit has repeatedly held that a patentee is entitled to the entire apportioned value between the next best NIA and the infringing instrumentality." (*Id.* at 48 (citing *Prism Techs. LLC v. Sprint Spectrum L.P.*, 849 F.3d 1360, 1376 (Fed. Cir. 2017); *Powell v. Home Depot U.S.A., Inc.*, 663 F.3d 1221, 1240 (Fed. Cir. 2011)).) Netlist asserts that Mr. Kennedy properly considered the *Georgia-*

Pacific factors and properly concluded [redacted] *Id.* at 48–49.) Netlist further argues that a case cited by Samsung, *Labyrinth Optical*, is inapposite to the facts at hand. (*Id.* at 49–50.) Netlist then argues that Mr. Kennedy established a quantitative connection between the asserted facts and his ultimate conclusion by apportioning to the technical benefit of the patents-in-suit. (*Id.* at 50–51.) Also, Netlist contends that "Mr. Kennedy also did not suggest that Netlist should receive 100% of the profit associated with the accused products, but rather that Samsung would not retain any of the already fully-apportioned value of the patented technology." (*Id.* at 51.) Next, Netlist urges that Samsung's emphasis on the revenue rather than the profits was addressed at the *Daubert* stage. (*Id.* at 51–52.) Finally, Netlist argues that the jury's award was only based on 75% of the apportioned value of the patents, not 100%, since the jury awarded 75% of what Netlist asked for. (*Id.* at 52.)

In reply, Samsung first argues that its arguments (here and below) are challenges to the sufficiency of the evidence, not *Daubert* challenges. (Dkt. No. 577 at 15–16.) Samsung then contends that the Federal Circuit has recently distinguished *Versata*, cited by Netlist, on the basis that the defendant in *Versata* "argue[d] that the district court should not have admitted SSC's expert testimony on damages," not "that the jury's verdict is not supported by substantial evidence because [the plaintiff's] expert testimony on damages" was flawed. (*Id.* at 15–16 (quoting *Enplas Display Device Corp. v. Seoul Semiconductor Co.*, 909 F.3d 398, 411 n.2 (Fed. Cir. 2018)).) Samsung then contends that even where a *Daubert* admissibility challenge has been waived, Rule 50(b) still requires review for sufficiency of the evidence. (*Id.* at 16 (citing *KAIST IP US LLC v. Samsung Elecs. Co.*, 439 F. Supp. 3d 860, 889 (E.D. Tex. 2020)).) Samsung asserts that there is no way for the Court to evaluate the sufficiency of the evidence at trial prior to the actual trial itself and thus denial of a *Daubert* does not require denying JMOL. (*Id.*)

Samsung argues that *Prism* and *Powell* are distinguishable, and that Netlist has not distinguished the cases cited by Samsung. (*Id.* at 16–17 (citing *Prism*, 849 F.3d 1360; *Powell*, 663 F.3d 1221).) Samsung again urges that *Labyrinth* is applicable and dictates that Netlist's damages theory fails as a matter of law. (*Id.* at 17 (citing *Labyrinth*, 2015 WL 12696081).) Samsung argues that Netlist's arguments about the "quantitative connection" for Mr. Kennedy's 100% award are insufficient because "these conclusory expert assertions are insufficient to show that Samsung, in a hypothetical negotiation, would agree to give Netlist 100% of the revenue corresponding to the patented technology." (*Id.* at 17–18.) Samsung then argues that it is irrelevant to their "rule-of-thumb" argument that the jury only awarded 75% of what Netlist requested. (*Id.* at 18.)

In sur-reply, Netlist asserts that Samsung's arguments are premised on critiques of Mr. Kennedy's methodology and are therefore *Daubert* arguments. (Dkt. No. 588 at 16.) Netlist then argues that Samsung has failed to establish that evidence presented on damages is so one-sided as to justify JMOL. (*Id.* at 16–17 (citing *Core Wireless*, 880 F.3d at 1361).)

Netlist also argues that Samsung has not engaged with the facts Netlist cited in its opposition brief. (*Id.* at 17.) Further, Netlist contends, Samsung cites no authority requiring Netlist to show that "anyone has ever agreed" to the arrangement Mr. Kennedy proposed. (*Id.* (citing Dkt. No. 577 at 17).) Netlist then urges that *Labyrinth* is not applicable. (*Id.* at 17–18 (citing 2015 WL 12696081).)

The Court is not persuaded by Samsung's arguments. There is no doubt that Mr. Kennedy opined that a proper award to Netlist would cover 100% of the revenue associated with the technology at issue. (Dkt. No. 491 at 775:1–7.) While Samsung contends that this is impermissible and that no reasonable jury could find that Samsung would agree to award Netlist 100% of the revenue, Samsung is wrong.

Georgia-Pacific factors 10 and 11 direct that the value of the patented technology should be considered. *Georgia-Pac. Corp. v. U.S. Plywood Corp.*, 318 F. Supp. 1116 (S.D.N.Y. 1970), *modified sub nom. Georgia-Pac. Corp. v. U.S. Plywood-Champion Papers, Inc.*, 446 F.2d 295 (2d Cir. 1971) ("10. The nature of the patented invention; the character of the commercial embodiment of it as owned and produced by the licensor; and the benefits to those who have used the invention. 11. The extent to which the infringer has made use of the invention; and any evidence probative of the value of that use.") No limit is placed on the amount of value a patentee may claim.

Caselaw supports this. The Federal Circuit in *Prism* awarded the full amount of cost-savings to plaintiff, which is another metric for value. 849 F.3d at 1376. In other words, the Federal Circuit has approved the patentee receiving the entirety of the value of the patent in a hypothetical negotiation. *See id.* The Federal Circuit did much the same in *Powell* by allowing the patentee to keep an award based on the savings a patent would provide. 663 F.3d at 1240.

Moreover, there is substantial evidence that Samsung would have agreed to let Netlist keep 100% of the value (which is really a better word than "revenue" in this context) of the patented invention. Mr. Kennedy opined that Netlist "never licensed its patents outside of a strategic agreement," which is significant because "in the hypothetical negotiation there is no strategic agreement. Samsung needs a license to the patents, and they are not giving anything in return for that except royalties," and further, "the negotiators would know that Netlist has never entered into a bare patent license agreement … so … those first two strategic relationships that they entered into should not be used to determine … the royalty." (Dkt. No. 491 at 686:24–687:3, 692:11–19.) Mr. Kennedy also pointed to Samsung documents showing Samsung was "behind [its] competitor's schedule already with DDR5," and thus the technical benefit provided by Netlist's

patents would be "particularly important to Samsung." (*Id.* at 694:10–15.) It would be important to Samsung to stay competitive, Mr. Kennedy opined, because it "control[s] 95 percent of the market place" with Micron and SK hynix and so "Samsung would want to be very competitive, not to lose market share []. There's two other big players out there that would willingly take those sales if [Samsung] couldn't offer that technology." (*Id.* at 706:4–14.) Mr. Kennedy also opined, relying on Samsung testimony, that Samsung had previously been cut out of the marketplace by SK hynix when it launched a product before Samsung, meaning Samsung had strong reason to want to remain competitive. (*Id.* at 706:18–22.) In sum, Netlist presented substantial evidence for the reasons why Samsung would have agreed at a hypothetical negotiation to pay Netlist 100% of the benefit of the patented invention.

Samsung cites a litany of cases, asserting they support its position, but they do not. (*See* Dkt. No. 561 at 50–51 (citing *Looksmart*, 2019 WL 4009263, at *3; *Nordock*, 2013 WL 989864, at *8; *Zegers*, 458 F.2d at 728 n.8.) First, none of the cases cited by Samsung in this regard are binding. Secondly, none of these cases hold that a patentee may not seek 100% of the value of its invention. Third, none of these cases touch on a situation where there was substantial evidence that an infringer has strong reasons to agree to give the patentee 100% of the value, as exists here.

Samsung also cites *Labyrinth*. (*See id.* at 51 (citing 2015 WL 12696081, at *4).) The District Court for the Central District of California held that:

> There is no evidence that Defendant or anyone else has ever agreed to pay 100% or even 25% royalty, nor evidence that Plaintiff has ever received such a royalty. Without such evidence, Woods' opinion is inadmissible because it is untethered from the patented technology at issue and the many licenses thereto and, as such, is arbitrary and speculative.

Id. (quotations and brackets omitted). Relying on this Samsung argues that "[b]ecause Netlist did not present evidence that anyone has ever agreed to such an arrangement, Mr. Kennedy's bare assertions do not constitute substantial evidence." (Dkt. No. 577 at 17.)

These arguments are not persuasive. As above, *Labyrinth* is not controlling. Moreover, if Samsung were to have its way, it would inject an improper limitation on the hypothetical negotiation. Neither Samsung nor *Labyrinth* cite controlling law for why a patentee must show that the infringer "agreed to such an arrangement" for that "arrangement" to be valid as a matter of law. Further, as above, *Labyrinth* does not touch on a situation where there was substantial evidence that an infringer has strong reasons to agree to give the patentee 100% of the value.

Samsung's remaining arguments are also not persuasive. Seeking 100% of the value of the patented invention is not disgorgement, and has been allowed by the Federal Circuit, as discussed above. Also, seeking 100% of the value of the patented invention is not an improper rule of thumb when, as discussed above, there is substantial evidence that the infringer would have agreed to award 100% of the value of the patented invention.

Two other points should be made. First, Netlist's argument that the jury only awarded 75% of what Netlist requested is irrelevant and therefore unavailing. (Dkt. No. 573 at 52.) Second, the Court finds that Samsung's arguments are attacks on Mr. Kennedy's methodologies because they go directly to the sufficiency of his theories and have been either waived (if Samsung failed to raise them at *Daubert*) or are improperly re-raised again at the Rule 50(b) stage. *KAIST*, 439 F. Supp. 3d at 888.

ii. Apportionment

Samsung argues that JMOL is appropriate because Mr. Kennedy failed to apportion. (Dkt. No. 573 at 53–55.) Specifically, Samsung argues that Mr. Kennedy was required to establish that the differences between the accused products and the alternatives are limited to incremental

benefits provided by the patents. It says that Netlist failed to do so. (*Id.* at 53 (citing *Finjan, Inc. v. Blue Coat Sys., Inc.*, 879 F.3d 1299, 1310 (Fed. Cir. 2018).) Mr. Kennedy claimed, based on a Samsung document, that DDR5 could offer an increase of 30% power efficiency over the prior generation DDR4 products, but, Samsung argues, he did not offer any analysis connecting this improvement to the claims of the '918 and '054 Patents. (*Id.* at 54.) Next, Samsung argues that Netlist offered no evidence or analysis connecting the improvement associated with the '339 Patent to the two-DIMMs-per-channel configuration Netlist claims the '339 Patent enables. (*Id.*) Regarding HBM products, Samsung argues that Netlist's technical expert, Dr. Brogioli, opined that the '060 and '160 Patents are necessary to achieve 8-high stacks, but Samsung argues (1) that Dr. Brogioli failed to address other prior art with 8-high stacks and (2) that Dr. Brogioli and Mr. Kennedy never provided specific evidence to demonstrate why the '060 and '160 Patents were necessary for 8-high stacks. (*Id.*) Finally, Samsung argues that Netlist failed to account for any benefits already provided by the prior art. (*Id.* at 55.)

In response, Netlist notes that this same argument was rejected at the *Daubert* stage. (Dkt. No. 573 at 53.) Further, Netlist contends that one of its technical experts, Dr. Mangione-Smith, connected the claims of the '918 and '054 Patents to the 30% efficiency gain and the claims of the '339 Patent to the two-DIMMs-per-channel configuration. (*Id.* at 53–55.) Netlist also contends that Dr. Brogioli adequately explained the drawbacks of the prior art with 8-high stacks and explained why the '060 and '160 patents are necessary to achieve 8-high stacks. (*Id.* at 55.) Netlist also argues that Samsung cites no law requiring Netlist to take account of the benefits provided by the prior art but that the jury was presented with substantial evidence on the contributions of the prior art. (*Id.* at 55–56.)

In reply, Samsung argues that Netlist has "cherry-picked" testimony from its technical experts and ignores that Mr. Kennedy failed to abide by the principle that damages must be apportioned according to the incremental benefit conferred by the patent over conventional elements. (Dkt. No. 577 at 20–21 (citing *Realtime Data, LLC v. Actian Corp.*, 2017 WL 11661896, at *3 (E.D. Tex. Mar. 24, 2017)).) Further, Samsung contends, none of the evidence cited by Netlist "establishes that the differences between the products were solely attributable to the asserted patents rather than, for example, conventional elements that existed in the prior art." (*Id.* at 21.)

In sur-reply, Netlist points out that Kennedy was permitted to rely upon the testimony of other technical experts. (Dkt. No. 588 at 20–21.) Netlist also argues that *Realtime* is distinguishable. (*Id.* at 21 (citing 2017 WL 11661896, at *3).) Netlist reasserts that the evidence it cited was sufficient to show apportionment. (*Id.* at 21–22.)

The Court is not persuaded by Samsung's arguments. For each product class (DDR4, DDR5, and HBM), Mr. Kennedy included the apportionment to his damages number. As discussed above, Mr. Kennedy's approach was to award to Netlist the difference in value between the accused product and the next-best alternative. (*See* Dkt. No. 491 at 775:1–7.) In turn, Netlist's next-best alternatives were based on what the accused product would be if the features enabled by the patents (and only the features enabled by the patents) were removed. Accordingly, Mr. Kennedy was directly measuring the value of the patented features by comparing the accused products to the next-best alternative (which are just the accused products *sans* features enabled by the patents).

For DDR4 products, Netlist asserted that the '339 Patent provides the ability to use two DIMMs per channel. Samsung argues that "Netlist offered no evidence or analysis connecting the purported improvement … to the specific type of buffer claimed in the '339 [P]atent." (Dkt. No. 561 at 54.) However, Dr. Mangione-Smith testified that "the capacity with the '339 invention is

doubled" and that Samsung did not identify "any alternative technology that it could have used in place of the '339 inventions." (Dkt. No. 489 at 400:8–23.) This is sufficient and constitutes substantial evidence.

For DDR5 products, Netlist offered evidence that the '918 and '054 Patents enabled a 30% improvement in power efficiency based on Samsung documents. (*See* Dkt. No. 489 at 381:8–383:12 (Mangione-Smith).) Samsung argues that "Netlist offered no evidence or analysis connecting the purported 30% improvement solely to the claims of the '918 and '054 [P]atents." (Dkt. No. 561 at 54.) However, Dr. Mangione-Smith testified that the '918 and '054 Patents "address … challenges with power management" with "on-module power management" and that as a result Samsung was "able to achieve a 30 percent improvement in power efficiency." (Dkt. No. 489 at 329:18–330:10.) This is substantial evidence connecting the improvement to the claims of the '918 and '054 Patents.

For HBM products, Netlist offered evidence through its other technical expert, Dr. Brogioli, [redacted]. (*See id.* at 540:18–541:18.) Samsung argues that Netlist "failed to address other prior art with 8-high stacks, and neither he nor Mr. Kennedy provided specific evidence to demonstrate why the later '060 and '160 [P]atents were supposedly necessary for 8-high stacks." (Dkt. No. 561 at 54.) Samsung does not articulate why Netlist would need to address the prior art. Nonetheless Netlist did address it. [redacted] (Dkt. No. 489 at 540:18–541:3.) [redacted]

[redacted] (*Id*. at 541:10–18.) Accordingly, in the Court's view Netlist adequately addressed the 8-high stacks in the prior art.

Samsung also argues that "Netlist failed to present any evidence accounting for the benefits already provided by the prior art," but it cites no caselaw requiring Netlist to put forth such evidence. (*See* Dkt. No. 561 at 55.) The Court does not find this argument persuasive.

iii. Samsung and SK hynix Licenses

Samsung argues that Mr. Kennedy failed to take account of two highly comparable Samsung and SK hynix licenses, and since comparable licenses must be considered, Mr. Kennedy's damages analysis fails as a matter of law. (Dkt. No. 561 at 55–56.) Also, Samsung argues, Mr. Kennedy relied on a noncomparable license, the Rambus license. (*Id.* at 56–57.) As a result, Samsung argues, Mr. Kennedy's analysis fails as a matter of law. (*See id.* at 57–58.)

In response, Netlist argues that these arguments have been waived because they were presented at the *Daubert* stage (where they failed), and they substantively constitute direct challenges to Mr. Kennedy's methodology, which are inappropriate at the 50(b) stage. (Dkt. No. 573 at 57–58 (*KAIST*, 439 F. Supp. 3d at 888).) Netlist contends that Mr. Kennedy adequately explained why the Samsung and SK hynix licenses are not comparable, and Mr. Meyer, Samsung's damages expert, conceded some of these same facts. (*Id.* at 58–60.) Finally, [redacted] (*Id.* at 61 (quoting Dkt. No. 491 at 742:17–22).)

In reply, Samsung again argues that the Samsung and SK hynix licenses are comparable and that the jury awarded an award many multiples higher than any rate supported by those licenses. (Dkt. No. 577 at 18–19.)

In sur-reply, Netlist again argues that it presented sufficient evidence that the Samsung license and the SK hynix agreement are not comparable. (Dkt. No. 588 at 18–19.)

The Court is not persuaded by Samsung's arguments. Whether a license is properly considered to be comparable or not is a classic challenge to expert's methodology. All of Samsung's arguments are therefore waived. *KAIST*, 439 F. Supp. 3d at 888. Nonetheless, Netlist presented substantial evidence through Mr. Kennedy regarding the issue of comparability as to the Samsung, SK hynix, and Rambus agreements. (*See, e.g.*, Dkt. No. 491 at 687:6–8, 689:19–24, 690:23–25, 691:1–23, 693:2–4.) [redacted]. (*Id.* at 742:10–22.) [redacted]. (*See, e.g.*, Dkt. No. 494 at 1191:25–1192:17, 1199:11, 1204:1–6, 1204:23–25.) On balance, this constitutes substantial evidence on the issue of comparability and non-comparability.

A verdict is not unreasonable simply because it is higher than the license agreements in the record. *LaserDynamics v. Quanta Comput.*, 694 F.3d 51, 81 (Fed. Cir. 2012) ("we do not hold that [a party's] past licenses create an absolute ceiling on the amount of damages to which it may be entitled"). Further, whether or not an agreement is comparable or not is a factually intensive inquiry. Both Netlist and Samsung thoroughly presented their versions of the facts to the jury. The jury clearly reached its conclusion by weighing these competing factual assertions. As such, the Court sees no reason to overturn the jury's ultimate determination of the facts in this regard.

iv. Non-Infringing Alternatives

Netlist calculated its damages as the difference between a "non-infringing alternative and the price of the product." (*See* Dkt. No. 491 at 775:1–7 (Kennedy).)

Samsung argues that Netlist failed to offer evidence that the alternatives it relied upon for the DDR4 and DDR5 products were both non-infringing and available. (Dkt. No. 561 at 58.) Specifically, Samsung argues that Netlist did not show that the alternative to the DDR4 products was non-infringing, that the alternative to the DDR5 products was available or commercially acceptable. (*Id.* at 58–60.)

In response, Netlist argues that Samsung has misinterpreted the law. (Dkt. No. 573 at 62.) Specifically, Netlist contends it only has the burden to show that there was an available next-best alternative to which it compared its claimed technology, not an acceptable non-infringing alternative. (*Id.* (citing *Salazar v. HTC Corp.*, No. 2:16-CV-01096-JRG-RSP, 2018 WL 2033709, at *3 (E.D. Tex. Mar. 28, 2018)).) Nonetheless, Netlist asserts that it did provide substantial evidence of available non-infringing alternatives as to the accused products. (*Id.* at 62–63.) Netlist also argues that the jury need only find the alternatives potentially available, not immediately available. (*Id.* at 64 (citing *Mars, Inc. v. Coin Acceptors, Inc.*, 527 F.3d 1359, 1372–73 (Fed. Cir. 2008)).)

In reply, Samsung again argues that Netlist has failed to show that the alternatives Mr. Kennedy relies upon are non-infringing, available, and commercially acceptable. (Dkt. No. 577 at 19–20.)

In sur-reply, Netlist again argues that the Court has already rejected these arguments at the *Daubert* stage. (Dkt. No. 588 at 19.) Netlist also argues that it is irrelevant that Dr. Brogioli criticized the "multidrop configuration." (*Id.* at 19–20.)

The Court is not persuaded by Samsung's arguments. First, Netlist need only show that there was an available next-best alternative to which it compared its claimed technology, not an acceptable non-infringing alternative. *Salazar*, 2018 WL 2033709, at *3. In lost profits cases, "the

patentee must show a 'reasonable probability that, "but for" infringement, it would have made the sales that were made by the infringer.'" *Id.* (citations omitted). This, "in turn, requires the patent owner to prove an absence of 'acceptable' non[-]infringing substitutes." *Id.* (citations omitted). "But 'acceptable non-infringing alternatives' don't play the same role in a reasonable-royalty determination. Rather, in a reasonable royalty context, courts consider the next-best available alternative, which is not necessarily an 'acceptable' alternative." *Id.* (citations omitted).

Netlist has shown that there is a next-best alternative for each product class. For DDR4 products, Mr. Kennedy explained that that "as we heard from Doctor Mangione, without Netlist technology, the product sold wouldn't be usable in this two DIMMs per channel configuration and that the next best alternative would be to try to sell a bigger DPC LRDIMM at a lower price." (Dkt. No. 491 at 700:13–17.) Samsung argues that relying a single LRDIMM is relying on an infringing article, but the alternative need only be "next best," not non-infringing. (Dkt. No. 577 at 19.)

For DDR5 products, Samsung argues that there is no non-conclusory evidence that such an alternative was available. (Dkt. No. 577 at 20.) However, Dr. Mangione-Smith explained that Samsung "[redacted]" (Dkt. No. 489 at 700:4–7.) The Court finds this adequate.

For HBM products, Samsung argues that Mr. Kennedy relied on accused products—four-high HBMs—as opposed to non-infringing alternatives. (Dkt. No. 577 at 20.) Mr. Kennedy explained that "[s]o as we heard from Doctor Brogioli, Netlist technology allows Samsung to sell eight high or higher DIMMs, and they wouldn't be able to do that without Netlist technology. They'd have to try to sell four high HBM to replace that." (Dkt. No. 489 at 701:18–25.) As mentioned above, the alternative need not be non-infringing, just next best. *Salazar*, 2018 WL

2033709, at *3. While Netlist points to the "multi-drop" configuration, it does not point to any place in the record where such evidence was presented to the jury.

v. Evidence for Damages for the DDR5 Products

Netlist accused the DDR5 products of infringing the '918 and '054 Patents. (*See* Dkt. No. 561 at 60.)

Samsung argues that Kennedy's opinions for damages for the DDR5 products relied on a fundamentally flawed hedonic regression analysis performed by Dr. Groehn, who did not testify at trial. (*Id.*) Samsung notes that it had challenged the admissibility of Dr. Groehn's opinions on multiple grounds and that the Court had denied Samsung's admissibility challenge because Samsung could question Dr. Groehn on cross examination. (*Id.* at 60–61.) However, Samsung argues, it could not cross examine Dr. Groehn because he was never called to testify, even though Netlist placed him on the witness list every day. (*Id.* at 61.) Thus, Samsung contends, Mr. Kennedy improperly parroted the opinions of another expert, having never conducted a regression analysis himself. (*Id.* at 61–62.)

In response, Netlist argues that Samsung has waived these arguments as they are the same ones raised in its *Daubert* motion against Dr. Groehn, because they constitute a late *Daubert* challenge to Mr. Kennedy's analysis, and because Samsung did not raise any such objection about calling Dr. Groehn at trial. (Dkt. No. 573 at 64–66.) Netlist notes that Dr. Groehn was present in the courtroom every day at trial, and Samsung elected not to call him adversely when it was apparent Netlist would not call him. (*Id.* at 67.) Finally, Netlist argues it was not necessary to go through Dr. Groehn' s regression analysis with Dr. Groehn before the jury because "both parties had already walked through it with Mr. Kennedy." (*Id.*)

In reply, Samsung argues that Mr. Kennedy did not offer any opinions on regression in his report and thus Samsung could not have raised a *Daubert* challenge against Mr. Kennedy "before

knowing that Netlist would decline to call Dr. Groehn at trial, and that Mr. Kennedy would adopt Dr. Groehn's opinions as his own at trial." (Dkt. No. 577 at 21–22.) Samsung also argues that it need not have objected at trial to Mr. Kennedy's discussion of the regression because the issue did not become ripe until Netlist rested its case without calling Dr. Groehn. (*Id.* at 22.) Samsung again argues that Netlist's failure to call Dr. Groehn at trial is Netlist's fault because "Netlist had the burden of proof on damages."

In sur-reply, Netlist argues that Mr. Kennedy made clear numerous times that Dr. Groehn performed the analysis. (Dkt. No. 588 at 22.) Netlist also notes that Mr. Kennedy made equally clear in his report that he relied on Dr. Groehn's analysis. (*Id.*) Then, Netlist again argues that Samsung should have called Dr. Groehn adversely if it wished to test his opinions via cross examination. (*Id.* at 22–23.) Finally, Netlist argues that it is irrelevant that Netlist carries the burden of proof on damages because nothing requires Netlist to meet that burden using expert testimony. (*Id.* at 23 (citing *Rehco LLC v. Spin Master Ltd.*, 2020 WL 7025091, *10 (N.D. Ill. Nov. 30, 2020)).)

The Court finds that Samsung's arguments are unpersuasive. Samsung could have called Dr. Groehn adversely in its case-in-chief if it wished to subject him to vigorous cross-examination. They elected not to. Netlist was not obligated to call every witness and expert that its damages expert relied upon. If Samsung believed Mr. Kennedy should not have presented any facts about the regression analysis or a damages model based on that regression analysis unless and until Dr. Groehn had testified, Samsung should have raised that objection at trial. It did not. Samsung's contention that no issue arose until evidence closed without Dr. Groehn testifying is misguided. If no issue arose until the close of evidence, then there was no issue with Mr. Kennedy testifying in the first place. If Samsung was concerned that Mr. Groehn had not testified when Netlist closed its

rebuttal case, Samsung could have moved the Court to allow it a sur-rebuttal case in which to call Mr. Groehn adversely. Samsung did none of these things. Accordingly, Samsung's arguments are waived.

Additionally, these arguments essentially challenge Mr. Kennedy's reliance on Dr. Groehn, which is another classic challenge to Mr. Kennedy's methodology which was raised and rejected at the *Daubert* stage. (*See* Dkt. No. 205 at 10–11; Dkt. No. 432 at 4.) The Court finds that Samsung's arguments in this regard have been waived.

Samsung suggests that Netlist failed to show sufficient evidence solely because it did not call Dr. Groehn live at trial. This does not mean that Mr. Kennedy's testimony was insufficient on its own. If it were, the Court would have excluded it or would have prevented Mr. Kennedy from testifying about it unless Dr. Groehn first testified. Samsung goes too far when it now argues that Mr. Kennedy's testimony was flawed because Dr. Groehn did not first testify at the time and that it could not have known about this until after evidence closed.

vi. Reducing Damages to $19.3MM

Samsung contends that if the Court does not grant JMOL of no damages, then the Court should grant JMOL that damages are no more than $19.3MM. This is the number that Samsung's expert opined was an appropriate amount of damages. (Dkt. No. 561 at 62–63 (citing *Tronzo v. Biomet, Inc.*, 236 F.3d 1342 (Fed. Cir. 2001)).) In response, Netlist argues that substantial evidence supports the jury's award so there is no basis to reduce the damages. (Dkt. No. 573 at 67.) Neither Samsung nor Netlist address this topic in reply and sur-reply. (*See* Dkt. Nos. 577, 588.)

Since the Court has found that the damages awarded by the jury are supported by substantial evidence, reducing the damages awarded would be improper. The Court declines to do so.

vii. New Trial on Damages

Samsung argues that if the Court does not grant Samsung's JMOL on damages, then it should order a new trial on damages for two reasons: (1) the damages award is against the great weight of the evidence and (2) the damages award is based on Mr. Kennedy's testimony, which should have been excluded. (Dkt. No. 561 at 63–65.) In response, Netlist argues that Samsung's arguments are essentially a rehash of its JMOL arguments, none of which support granting a new trial. (Dkt. No. 573 at 68.) In reply Samsung asserts that Netlist does not respond to its argument that the damages award is against the great weight of the evidence. (Dkt. No. 577 at 23.) In sur-reply, Netlist argues that the standard for a new trial is highly deferential. (Dkt. No. 588 at 23 (quoting *i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 857–58 (Fed. Cir. 2010)).)

The Court finds that the damages are not against the great weight of the evidence as they are supported by substantial evidence, as described above. Additionally, the Court has found that Mr. Kennedy's testimony should not have been excluded. The Court sees no reason to order a new trial on damages.

viii. New Trial on Damages Conditioned on Remittitur

Samsung argues that the court may also order a new trial conditioned upon remittitur of the "maximum amount the trier of fact could have properly awarded," which is $19.3MM according to Samsung. (Dkt. No. 561 at 65 (quoting *Delahoussaye v. Performance Energy Servs., L.L.C.*, 734 F.3d 389, 394–95 (5th Cir. 2013)).) In response, Netlist argues that Samsung's arguments do not comply with Federal Rule of Civil Procedure 7(b)(1)(B), which requires that motions "state with particularity the grounds for seeking the order." (Dkt. No. 573 at 68.) Netlist also argues that Samsung does not explain why $19.3MM is the "highest amount a jury could have properly awarded." (*Id.* (quoting *Longoria v. Hunter Express, Ltd.*, 932 F.3d 360, 364-65 (5th Cir. 2019)).) In reply, Samsung argues it clearly explained why $19.3MM is the highest amount a jury could

have awarded: because the Samsung and SK Hynix agreements are comparable and should control the outcome of the hypothetical negotiation. (Dkt. No. 577 at 23–24.) In sur-reply, Netlist argues that Samsung is rearguing a fact question that did not turn out as it hoped. (Dkt. No. 588 at 24.)

Since the Court sees no reason to order a new trial and sees no compelling reason to lower the damages awarded, the Court sees no reason to order a new trial conditioned on remittitur. It declines Samsung's invitation to do so.

D. Willfulness

The jury found that Samsung had willfully infringed at least one of the asserted claims of the '339 Patent, at least one of the asserted claims of the '918 and '054 Patents, and at least one of the asserted claims of the '918 and '054 Patents. (Dkt. No. 480 at 6.) At trial, the Court's ruling that Samsung did not infringe prior to the termination of the JDLA license in July of 2020 was in effect. (*See* Dkt. No. 561 at 66.)

Samsung argues that Netlist relied on a 2015 presentation (PX464) discussing a potential partnership with Samsung, but that the presentation does not mention the '339 Patent which had not even been filed at the time. (Dkt. No. 561 at 67.) Samsung also argues that Netlist relied on two documents discussing Netlist and the JDLA from 2019 to show willful infringement of the '339 Patent—PX1756 and PX1663—but PX1756 shows that Samsung had "not checked" whether it used any Netlist patents because of its license. (Dkt. No. 561 at 67.)

Samsung argues that Netlist pointed to PX586, an email from 2019 discussing a request from Samsung to discuss DDR5 technology, to show willful infringement of the '918 and '054 Patents, but there was no evidence that any of Netlist's patents were discussed in connection with the email. (Dkt. No. 561 at 67–68.) Samsung also contends that Netlist pointed to PX621 in its closing argument to show willful infringement of the '918 and '054 Patents but the document does not mention the patents, which had not yet been filed. (Dkt. No. 561 at 68.)

Samsung asserts that Netlist's argument for willful infringement of the '060 and '160 Patents centered on PX446, a patent list sent to Samsung in November 2016 listing only the '060 Patent. (Dkt. No. 561 at 68.) However, Samsung contends it was licensed to the '060 Patent at the time, foreclosing any inference that the document led Samsung to believe the HBM products infringe. (*Id.*) Samsung contends that it provided unrebutted testimony that Netlist's sharing of PX446 had nothing to do with Samsung. (Dkt. No. 561 at 68.)

Samsung contends that Netlist also identified a presentation, PX1778, that Netlist alleges was given orally to Samsung in 2015, but the email thread is entirely internal to Netlist, and Netlist produced no documentary evidence that the presentation was ever shown to Samsung even though a slide mentions the '060 Patent. (Dkt. No. 561 at 69.) Samsung then contends that Netlist never showed that any Samsung employee had knowledge of the Asserted Patents or alleged infringement was involved in the continued sales of the accused products—let alone anyone with sufficient authority such that their acts and knowledge can be imputed to Samsung. (*Id.* at 69–70.)

Finally, Samsung argues that no reasonable jury could have found that Samsung was willfully blind to infringement. (Dkt. No. 561 at 70.) Samsung first contends that the Court should not hold that willful blindness to infringement can constitute willful infringement. (*Id.*) Next, Samsung argues that Netlist cannot show that Samsung was willfully blind because there "was no evidence that Netlist informed Samsung of the alleged infringement until filing suit, and none of the communications from before or during the license period was sufficient to show that anyone at Samsung believed years later that infringement was highly likely and took deliberate steps to avoid this knowledge—let alone that any such individual had responsibility for the alleged infringement." (*Id.* at 70–71.)

In response, Netlist argues that there was ample evidence presented to the jury for it to find willful infringement. (Dkt. No. 573 at 68–70.) Netlist argues that Samsung's willful infringement after the filing of the complaint supports the jury's verdict. (*Id.* at 70 (citing *Packet Intel. LLC v. NetScout Sys., Inc.*, 2019 WL 2375218, at *8 (E.D. Tex. June 5, 2019), *aff'd in relevant part*, 965 F.3d 1299 (Fed. Cir. 2020)).)

In reply, Samsung argues that Netlist does not dispute that any claim of willful infringement is limited to a time after the alleged termination of the license in July 2020 and, for four of the five patents, after the lawsuit was filed in December 2021. (Dkt. No. 577 at 24.) Samsung argues, however, that the documents cited by Netlist predate the license and the termination. (*Id.*) Samsung re-urges that the documents either do not mention the asserted patents or are entirely internal to Netlist. (*Id.*) As such, Samsung asserts that Netlist's willfulness argument comes down to nothing more than Samsung's continued selling of its products after Netlist terminated the JDLA and filed suit. (*Id.*)

In sur-reply, Netlist argues that "pre-damages conduct can support a finding of willfulness infringement." (Dkt. No. 588 at 24.) Netlist then summarily asserts that Samsung "continued to sell infringing products despite its knowledge that it copied Netlist's technology." (*Id.* at 25.)

The Court is not persuaded by Samsung's arguments. First, willful infringement is an inquiry that considers the "totality of the circumstances." The inquiry is, by its nature, factually intensive. This Court sees no basis to overturn the jury's determination in this regard. *See WCM Indus., Inc. v. IPS Corp.*, 721 F. App'x 959, 970 (Fed. Cir. 2018). There were many potentially relevant facts before the jury, which were necessarily considered by the jury in reaching this result. (*See* Dkt. No. 573 at 68–70.)

Further, Samsung offers no compelling reason why communications made while it was licensed (or before) could not contribute to Samsung's willful infringement. It is logical that Samsung may understood that it would have been infringing but for the license, and this knowledge may properly contribute to a post-license finding of infringement that is willful.

Finally, Samsung's post-complaint actions may also properly support a finding of willfulness. *Packet Intel. LLC v. NetScout Sys., Inc.*, 2019 WL 2375218, at *8 (E.D. Tex. June 5, 2019) (emphasis in original), *aff'd in relevant part*, 965 F.3d 1299 (Fed. Cir. 2020). It is undisputed that Samsung released a product accused of infringement after the filing of the complaint. (Dkt. No. 493 at 1089:25–1090:23.)

E. New Trial

As it rounds out its 50(b) arguments, Samsung says that it is entitled to a new trial. (Dkt. No. 561 at 71–75.) First, Samsung argues that Netlist's improper trial conduct unfairly prejudice Samsung. (*Id.* at 71–74.) Samsung argues that (a) Netlist improperly argued claim construction to the jury, including during closing (b) violated a motion *in limine* precluding discussion of the value of the supply provisions of the SK hynix agreement and the JDLA, and (c) made "jingoistic comments in closing arguments to inflame the jury against Samsung on the basis of national origin." (Dkt. No. 561 at 71–74.) Samsung also argues that the Court improperly excluded relevant evidence concerning the standard setting body JEDEC. (*Id.* at 74–75.)

In response, Netlist argues that the jury was capable of following the Court's instructions regarding claim construction, which stated that the jury must accept and apply the Court's constructions, and that Samsung raised no objections during Netlist's closing arguments. (Dkt. No. 573 at 70–71.) Netlist also contends that the Court only precluded Mr. Kennedy from referencing the value of the supply provisions of the SK hynix agreement and that it was Samsung's expert, Mr. Meyer, who announced the number in open court. (*Id.* at 71–73.) As to any comments Netlist's

counsel made in closing related to national origin, they were simply to rebut the statements counsel for Samsung had made when it opened that door in its closing argument. (*Id* at 73–74.) Finally, Netlist argues that the Court properly excluded evidence regarding JEDEC, given that Samsung took the position that the patents-in-suit were not essential to any JEDEC standards. (*Id.* at 74–75.)

In reply, Samsung argues that it did not waive any objections during closing because the Court had instructed that it did not "want there to be objections to the other one's closing unless there is absolutely no alternative." (Dkt. No. 577 at 24–25 (quoting Dkt. No. 495 at 1229:17–18).) Samsung also argues that it did not open the door to Netlist's "prejudicial references to Samsung's national origin." (*Id.* at 25.) Finally, Samsung urges that exclusion of JEDEC evidence was improper because it prevented Samsung from discussing "non-accused technology." (*Id.*)

In sur-reply, Netlist argues that if its comments were so prejudicial as to warrant a new trial, then Samsung had no alternative but to object and should have. (Dkt. No. 588 at 25.) However, Netlist denies that it ever disparaged anyone's national origin. (*Id.*) Finally, Netlist argues that the Court's exclusion of JEDEC evidence did not prevent Samsung from discussing "non-accused technology."

After fulsome review of the record, the Court is persuaded that a new trial is not necessary or proper in this case. If the comments made by counsel for Netlist during closing were so prejudicial that they would warrant a new trial, then Samsung should have objected. They did not. Regarding the mention of the value of the supply provision of the SK hynix agreement, Samsung does not dispute that its own expert put this number into evidence, and this opened the door—about which it cannot complain. (Dkt. No. 495 at 1201:3 (Meyer).) Further, Samsung does not contest that the jury was able to follow, and did in fact follow, the Court's instructions regarding

claim construction. The comments that counsel for Netlist and Samsung made related to national origin were neither disparaging nor so prejudicial that a new trial is warranted. Finally, the Court continues to be persuaded that evidence related to JEDEC is not relevant because the Asserted Patents are not and were not alleged to be standard essential. To have allowed evidence about a nonapplicable standard would have injected serious confusion into this trial. Further, exclusion of evidence about JEDEC did not prevent Samsung from discussing "non-accused technology."

VI. CONCLUSION

For the foregoing reasons, the Court finds that the Motion (Dkt. No. 561) and the Motion to File a Supplemental Brief (Dkt. No. 591) should be and hereby are **DENIED**.

The parties are directed to jointly prepare a redacted version of this Order for public viewing and to file the same on the Court's docket as an attachment to a Notice of Redaction within five (5) business days of this Order.

So ORDERED and SIGNED this 12th day of July, 2024.

RODNEY GILSTRAP
UNITED STATES DISTRICT JUDGE